



Product Catalog

# Split System Air Conditioners Odyssey™ with Symbio™ Controls

Heat Pump Condenser, 5 to 16.7 Tons, 50Hz

Air Handler, 4.6 to 16.7 Tons, 50Hz





# Introduction



Odyssey™ Split Systems offer a wide range of options, allowing you to easily match unit tonnage with the right load requirements.

When a project calls for the convenience and cost efficiency of a unitary product, where a rooftop unit isn't right, Odyssey may be the answer. It provides heating and cooling in a split configuration that's unique in its versatility while staying true to our standards for efficiency and reliability. And with the Symbio® digital controller on board, Odyssey introduces smart building capabilities that take service, comfort and sustainability beyond the expected.

With wide network availability, flexible applications, installation ease, built-in reliability and easy servicing, Odyssey will meet any number of customer applications. Add to that Trane's outstanding customer service and you have the formula to make Odyssey the clear choice for continued customer satisfaction.

## Wide Network Availability

A broad distribution network provides owners, maintenance personnel, contractors, etc., the means to get their hands on equipment when they need it. Whether it's an emergency replacement or a new construction project in its infancy stages, Odyssey products meet an array of needs at the right time and right price.

## Flexible Applications

No matter what the application, Odyssey provides the solution. A broad array of models and tonnages are available with single or dual compressors, single or dual circuits and numerous accessories. Condensing units can be installed on the ground or on a rooftop along with extended piping runs, while air handlers can be free discharge on the ground or horizontally suspended with long duct runs from a ceiling. Should application challenges arise, Odyssey delivers.

## **Easy to Install**

Small footprints and low weights combined with factory installed components like TXVs, filter driers, etc., reduce installation time and cost. Colored connectors and wiring, as well as factory-tested units make Odyssey the right choice.

## **Built-in Reliability**

Keeping in mind that productivity only occurs when equipment is operational, Trane has taken the steps to ensure that Odyssey is up and running. Early indicators such as phase/reversal monitors and loss of charge protection provide diagnostics which prevent failure and provide years of worry-free service and operation.

## **Easy to Service**

When preventive maintenance or service is required, technicians will find efficient access to both air handlers and condensers. Panels provide complete, easy access coupled with standardized cabinets in which all components are located in proximity. Odyssey's improved design results in minimum service times and costs.

With these capabilities, Odyssey provides customers high efficiency and superior performance for the best all-around value in the market today.

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# Features

## Split System Overview

Unlike typical split systems on the market, Odyssey offers easy servicing, built-in reliability, ease of installation and outstanding customer service. And because today's owners are very cost-conscious when it comes to service and maintenance, the Odyssey Split System was designed with direct input from service contractors. This valuable information helped to design a product that would get the service person off the job quicker and save the owner money.

## Flexible Applications

Odyssey offers outstanding standard features enhanced by a variety of factory and field installed options, multiple control options, rigorously tested proven designs and superior product and technical support. Because of this, Odyssey offers ultimate flexibility. Units are built to order in our standard "shortest in the industry" ship cycle time. Odyssey is available with single, dual and manifolded compressor options. Single compressor outdoor units feature a single refrigeration circuitry, lowering job installation costs by requiring only one set of refrigerant lines.

Equally important, Odyssey offers single refrigerant circuit/capacity unloading models. The unloading units feature dual manifolded scroll compressors with two stages of capacity modulation and a single refrigeration circuit. Dual compressor/dual circuit models give true stand-by protection - if one compressor fails, the second will automatically start-up. Also, the first compressor can be serviced without shutting down the unit since the refrigerant circuits are independent. Dual compressor models also save on energy costs. During light load conditions, only one compressor will operate to save energy.

## Unmatched Product Support

One of our finest assets, Trane Sales Representatives are a support group that can assist you with:

- Product
- Application
- Service
- Training
- Special Applications
- Specifications
- Computer Programs and much more

## Rigorous Testing

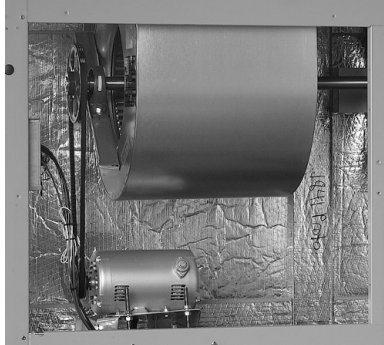
Our units are rigorously rain tested to ensure water integrity. Actual shipping tests are performed to determine packaging requirements. Units are test shipped around the country to determine the best packaging. Factory shake and drop tests are used as part of the package design process to help assure that the unit arrives at the job site in top condition. Rigging tests include lifting a unit into the air and letting it drop one foot, assuring that the lifting lugs and rails hold up under stress. A 100% coil leak test is performed at the factory. The condenser coils are leak tested at 660 psig and evaporators to 450 psig. All parts are inspected at the point of final assembly. Sub-standard parts are identified and rejected immediately. Every unit receives a 100% unit run test before leaving the production line to ensure it lives up to rigorous Trane requirements.

## Standard and Optional Features

Figure 1. Compressors



Figure 2. Belt drive motor



**Airflow Distribution** — Odyssey can replace an older machine with old ductwork and, in many cases, improve the comfort through better air distribution.

**Anti-Short Cycle Timing** — The Symbio™ 700 controller provides a 3 minute minimum “ON” time and 3 minute “OFF” time for compressors to enhance compressor reliability by assuring proper oil return.

**Belt Drive Motors** — For additional static requirements, Odyssey Split Systems offer standard belt drive motors to meet and exceed a wide range of airflow needs.

**Black Epoxy Pre-Coated Condenser Coils** — The pre-coated coils are an economical option for protection in mildly corrosive environments.

**Coil Guards** — Coil Guards are standard with all condensers. This feature protects the condenser coil from vandalism and/or hail damage. When ordered factory installed, it also adds additional shipping protection.

**Colored Connectors and Wiring** — Interconnecting wiring between components is standardized using colored and keyed connectors and colored wires, helping to save time and money tracing wires and diagnosing the unit.

**Compressors** — Odyssey Split Systems contain the best compressor technology available to achieve the highest possible performance. Dual compressors perform very well under part load cooling conditions and system back- up applications. Dual compressors are available on 4.6-20.9 ton models and allow for efficient cooling utilizing 2-stages of compressor operation.

**Convertible Units** — The air handlers ship in a horizontal configuration. They can be easily converted to vertical by simply repositioning the drain pan.

**Crankcase Heaters** — These band heaters provide improved compressor reliability by warming the oil to prevent migration during off-cycles or low ambient conditions.

**Dual Sloped Drain Pans**— Every Odyssey unit has a non-corrosive, removable, double sloped drain pan that’s easy to clean and reversible to allow installation of drain trap in two positions on either side of the unit.

**Duct flanges** — An optional field installed kit that can save time and money.

**Easy Access Low Voltage Connections** — Thermostat and other low voltage control wiring connections are made directly to the Symbio 700 and other boards in the system. Screw-type pressure connectors are detachable from the boards for easy connection of control wires – saving cost and time.

**Electric Heaters** — Electric heat modules are available in a variety of voltages and capacities.

**Foil Faced Insulation** — All internal air handler surfaces have cleanable foil-faced insulation. All edges are either captured or sealed to ensure insulation fibers do not get into the airstream.

**High Static Motor** — Available on many models, this high static motor accessory extends the capability of the standard unit.

**High and Low Voltage Control Panel** — High voltage components and connections are isolated from low voltage and covered with a sheet metal panel. This allows setup and test parameters at the



## Features

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Symbio™ 700 display and the VFD keypad display to be safely viewed and adjusted in the low voltage section of the control panel.

**High Pressure Control** — All units include High Pressure Control as standard.

**Low Ambient Cooling** — All Odyssey units have cooling capabilities down to 0°F as standard. At temperatures below 55°F for single compressor units and 40°F for dual compressor units, some reduction in cooling capacity can be expected. When the optional Low Ambient Accessory kit is field installed, the full capacity of the unit is available down to 0°F.

**Low Voltage Connections** — Low voltage wiring connects directly to the control boards in the unit via detachable connectors. This makes it easy for the installer to attach the wires and then snap the connectors into place.

**Phase Monitor/Reversal Protection** — Phase monitor shall provide 100% protection for motors and compressors against problems caused by phase loss, phase imbalance, and phase reversal. Phase monitors are equipped with an LED that provides an ON or FAULT indicator.

**Quick-Access Panels** — Remove a few screws for access to the standardized internal components and wiring.

**Single Point Power** — A single electrical connection powers the unit.

**Single Side Service** — Single side service is standard on all units.

**Standardized Components** — Components are placed in the same location on all Odyssey units. Because of these standardized components throughout the Odyssey line, contractors/owners can stock fewer parts.

**Symbio™ 700** — Standard on Odyssey condensers, the Symbio™ 700 controller provides exceptional machine control with a focus on system reliability and application flexibility. The Symbio controller provides direct access to the Symbio Service and Installation mobile application for easy setup and troubleshooting with no special tools. A wide range of system integration options (Non-communicating, BACnet®, LonTalk®, etc.) provide options to meet the needs of your application.

**Thermal Expansion Valve with Bypass Check Valves** — This feature is standard on all indoor units.

**Unit Cabinet** — The compact cabinet takes up less room and is less costly to ship. The design also ensures water integrity.



**Table 1. Odyssey features – standard and optional**

	Standard Features	Options <sup>(a)</sup>	
		Factory Installed	Field Installed
1-year Limited Parts Warranty	X		
5-year Limited Compressor Warranty	X		
Belt Drive Motors	X		
Black Epoxy Pre-Coated Coils		X	
Coil Guards	X		
Colored Connectors and Wiring	X		
Compressor Discharge Temperature Limit (DTL)	X		
Convertible Airflow	X		
Crankcase Heaters	X		
Easy Access Low Voltage Connections	X		
Electric Heaters			X
Filters	X		
Filters – 2" MERV 13			X
Foil-Faced and Edge Captured Insulation	X		
High Pressure Control	X		
High Static Motor Kit <sup>(b)</sup>			X
IAQ Dual Sloped and Removable Drain Pans	X		
Low Ambient Cooling			X
Liquid Line Refrigerant Drier	X		
Low Pressure Control	X		
Low Static Motor Kit <sup>(b)</sup>			X
Low Voltage Circuit Protection	X		
Phase Loss/Reversal Monitor	X		
Quick Access Panels	X		
Scroll Compressors	X		
Single Point Power	X		
Single Side Service	X		
Standardized Components	X		
Symbio™ Controls	X		
Thermal Expansion Valve	X		
Vibration Isolators			X

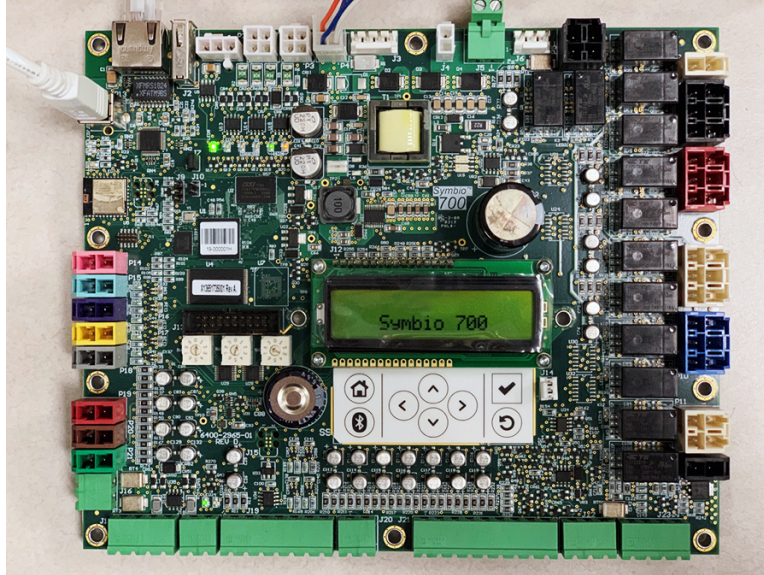
<sup>(a)</sup> Refer to model number description for option availability or contact Product Support.

<sup>(b)</sup> Available on constant volume units only. See Accessories chapter for more information.

## Standard Controls

### Symbio™ 700 Controls

Figure 3. Symbio 700 board



Symbio 700 controls provide unit control for heating, cooling, and ventilating, utilizing input from sensors that measure outdoor and indoor temperature. Symbio also provides outputs for building automation systems and expanded diagnostics. Quality and reliability are enhanced through Symbio control and logic:

- Prevents the unit from short cycling, considerably improving compressor life.
- Ensures the compressor will run for a specific amount of time which allows oil to return for better lubrication, enhancing the reliability of the compressor.
- Reduces the number of components required to operate the unit, reducing possibilities for component failure.

### Installation and Service

The Symbio™ 700 control platform provides a user-friendly, onboard interface that makes setup and continued operation easy – or users can take advantage of the Symbio™ Service and Installation Mobile App for setup, troubleshooting, and operation. Both the Symbio onboard user interface and mobile app simplify troubleshooting by displaying active alarms. Symbio eliminates the need for field-installed, anti-short cycle timer and time delay relays. The wiring of the low voltage connections to the unit and zone sensors is simple, making installation easy.

### Testing

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

### Other Benefits

- Symbio™ 700 built-in anti-shortcycle timer, time delay relay and minimum **on** time control functions are factory tested to assure proper operation.
- Symbio 700 softens electrical **spikes** by staging on fans, compressors and heaters.
- Intelligent Fallback is a benefit to the building occupant. If a component goes astray, the unit will continue to operate at predetermined temperature setpoint.

- Intelligent Anticipation is a standard feature. It functions continuously as Symbio 700 and zone sensor(s) work together in harmony to provide much tighter comfort control than conventional electromechanical thermostats.
- The Symbio 700 design is standardized across the board, ensuring a lower cost to owners.



# Accessories

## Heat Pump Condenser

Table 2. TWA accessories

Model	Used With
<b>Rubber Isolators</b>	
BAYISLT005* (black)	TWA060, TWA076, TWA101
BAYISLT009* (red)	TWA156
BAYISLT010* (green)	TWA201
<b>Steel Spring Isolators</b>	
BAYISLT023* (red)	TWA060, TWA076, TWA101
BAYISLT024* (black)	TWA156
BAYISLT025* (yellow)	TWA201
<b>Service Valve Kit</b>	
BAYVALV001*	TWA0604*A, TWA1014*A
BAYVALV002*	TWA0764*A
BAYVALV003*	TWA0604*D, TWA0764*D, TWA1014*D
BAYVALV006*	TWA1564*D, TWA2014*D
<b>Low Ambient — On/Off Fan Control<sup>(a), (b)</sup></b>	
BAYLOAMS10* (External Mount, small cabinets) <sup>(c)</sup>	TWA060**A, TWA076**A
BAYLOAMS20* (Internal mount, large cabinets)	TWA101, TWA156, TWA201
<b>Transducer Kit for Head Pressure Control (BAYLOAM435, 436, 437)</b>	
BAYLOTR001* <sup>(d)</sup>	TWA060**D, TWA076**D, TWA101**D
<b>LonTalk Communications Interface<sup>(e)</sup></b>	
BAYLTCI005*	All Models
<b>Expansion Module Kit</b>	
BAYMODU002* (XM30)	All Models
BAYMODU004* (XM32)	All Models

<sup>(a)</sup> Cycles fan on/off (no modulating).

<sup>(b)</sup> When BAYLOAM is used, the Evaporator Defrost Control (EDC) must be disabled in the Symbio 700 controller configuration.

<sup>(c)</sup> Kit mounts external to the outdoor unit and operates by sensing ambient temperature and discharge pressure.

<sup>(d)</sup> BAYLOTR001\* required when BAYLOAMS10\* kits are used with units that have 2 compressors (dual circuit) and 1 condenser fan.

<sup>(e)</sup> Field installed LonTalk interface requires installation of Symbio control board with Advanced Diagnostics (not included).

# Air Handler

**Table 3. TWE Accessories**

Model	Used With
<b>Base (Subbase)</b>	
BAYBASE009*	TWE051
BAYBASE0010*	TWE072, TWE076
BAYBASE0011*	TWE101
BAYBASE0012*	TWE156
BAYBASE0013*	TWE201
<b>Drip Kit</b>	
BAYDRKT006*	TWE051
BAYDRKT007*	TWE072, TWE076
BAYDRKT008*	TWE101
BAYDRKT009*	TWE156
BAYDRKT010*	TWE201
<b>Duct Flange Kit</b>	
BAYDUCT010*	TWE051, TWE060, TWE072, TWE076, TWE090, TWE101, TWE120
BAYDUCT020*	TWE156, TWE180, TWE201, TWE240
<b>Filters – 2" MERV 13</b>	
BAYFILT001*	TWE051
BAYFILT002*	TWE072, TWE076
BAYFILT003*	TWE101
BAYFILT004*	TWE156
BAYFILT005*	TWE201
<b>Rubber Isolators<sup>(a) (b) (c)</sup></b>	
BAYISLT004* (Floor — Blue)	TWE051, TWE072, TWE076, TWE101
BAYISLT009* (Floor — Red) <sup>(d)</sup>	TWE156
BAYISLT010* (Floor — Green)	TWE201
BAYISLT012* (Suspended — Red/Green)	TWE156
BAYISLT013* (Suspended — Red/Green)	TWE051
BAYISLT014* (Suspended — Green)	TWE072, TWE076
BAYISLT015* (Suspended — Green/Black)	TWE101
BAYISLT016* (Suspended — Red/Green)	TWE201
<b>Steel Spring Isolators</b>	
BAYISLT019* (Floor — Red)	TWE051, TWE072, TWE076, TWE101
BAYISLT021* (Floor — Black)	TWE156
BAYISLT032* (Floor — Black/Yellow)	TWE201
BAYISLT028* (Suspended — Tan)	TWE051
BAYISLT029* (Suspended — Red)	TWE072, TWE076, TWE101
BAYISLT030* (Suspended — Black)	TWE156
BAYISLT031* (Suspended — Black/Yellow)	TWE201
<b>Plenum<sup>(e)</sup></b>	
BAYPLNM015* (Discharge Plenum & Grille)	TWE051
BAYPLNM016* (Discharge Plenum & Grille)	TWE072, TWE076
BAYPLNM017* (Discharge Plenum & Grille)	TWE101
BAYPLNM018* (Discharge Plenum/Hydronic Coil Plenum & Grille)	TWE156
BAYPLNM019* (Discharge Plenum/Hydronic Coil Plenum & Grille)	TWE201
BAYPLNM020* (Hydronic Coil Discharge Plenum & Grille)	TWE051
BAYPLNM021* (Hydronic Coil Discharge Plenum & Grille)	TWE072, TWE076
BAYPLNM022* (Hydronic Coil Discharge Plenum & Grille)	TWE101
BAYPLNM030* (Electric Heat Discharge Plenum & Grille)	TWE051
BAYPLNM031* (Electric Heat Discharge Plenum & Grille)	TWE072, TWE076



## Accessories

**Table 3. TWE Accessories (continued)**

Model	Used With
BAYPLNM032* (Electric Heat Discharge Plenum & Grille)	TWE101
BAYPLNM033* (Electric Heat Discharge Plenum & Grille)	TWE156
BAYPLNM034* (Electric Heat Discharge Plenum & Grille)	TWE201
<b>Return Air Grille</b>	
BAYGRLE001*	TWE051
BAYGRLE002*	TWE072, TWE076
BAYGRLE003*	TWE101
BAYGRLE004*	TWE156
BAYGRLE005*	TWE201
<b>Symbio™ Options Module Kit</b>	
BAYMODU001*	All TWE units with Digit 15 = 1 and Electric heater installed
<b>Transformer</b>	
BAYTFMR021* - 100 VA Transformer (400 V)	All TWE072 – TWE201, 380-415V Hz unit
<b>Water Kits</b>	
BAYWATR022* (Steam Coil Enclosure)	TWE051
BAYWATR023* (Steam Coil Enclosure)	TWE072, TWE076
BAYWATR024* (Steam Coil Enclosure)	TWE101
BAYWATR025* (Steam Coil Enclosure)	TWE156
BAYWATR026* (Steam Coil Enclosure)	TWE201
BAYWATR027* (Hot Water Coil Enclosure)	TWE051
BAYWATR028* (Hot Water Coil Enclosure)	TWE072, TWE076
BAYWATR029* (Hot Water Coil Enclosure)	TWE101
BAYWATR030* (Hot Water Coil Enclosure)	TWE156
BAYWATR031* (Hot Water Coil Enclosure)	TWE201
<b>Wire Kit — 180° Blower Discharge Reversal Kit<sup>(f)</sup></b>	
BAYWRKT002*	TWE051, TWE072, TWE076, TWE101

(a) Requires use of subbase accessory.

(b) In units with steam or hot water coils applied vertically or horizontally, check IOM for proper Isolator Kit selection.

(c) Do not use if blower will operate less than 600 RPM.

(d) When the air handler is in the vertical position and close proximity trapping of condensate is required, use of subbase is required.

(e) When installed horizontally, plenum/water coil must be self-supported. When adding vibration isolators, see Isolator Installation Guide (ACC-SVN92\*-EN) for isolator and location matrix.

(f) Cannot be used on TWE150-300, due to motor mount location. Only available with Constant Volume units.

**Note:** See HUB case DOC-209462 for high-static and low-static drive kits (available only for constant volume air handlers).

## Electric Heaters

**Table 4. Electric heaters**

Model	Used With
<b>4.6 to 8.33 Ton Electric Heater Selection</b>	
BAYHTRP405* — 3.13/3.74 kW Heater 380/415 / 3 Phase	TWE051, TWE072*D, TWE076, TWE101
BAYHTRS410* — 6.25/7.46 kW Heater 380/415 / 3 Phase	TWE051, TWE072*D, TWE076, TWE101
BAYHTRS415* — 9.37/11.17 kW Heater 380/415 / 3 Phase	TWE051, TWE072*D, TWE076, TWE101
BAYHTRP425* — 15.63/18.64 kW Heater 380/415 / 3 Phase	TWE051, TWE072*D, TWE076, TWE101
BAYHTRP435* — 21.86/26.08 kW Heater 380/415 / 3 Phase	TWE101

**Table 4. Electric heaters (continued)**

Model	Used With
<b>13 to 16.7 Ton Electric Heater Selection</b>	
BAYHTRT410* — 6.25/7.46 kW Heater 380/415 / 3 Phase	TWE156, TWE201
BAYHTRR420* — 12.50/14.92 kW Heater 380/415 / 3 Phase	TWE156, TWE201
BAYHTRR430* — 18.76/22.38 kW Heater 380/415 / 3 Phase	TWE156, TWE201
BAYHTRR450* — 31.26/37.29 kW Heater 380/415 / 3 Phase	TWE156, TWE201



# Application Considerations

Application of this product should be within the cataloged airflow and performance considerations.

## Clearance Requirements

The recommended clearances identified with unit dimensions should be maintained to assure adequate serviceability, maximum capacity and peak operating efficiency. Actual clearances which appear inadequate should be reviewed with the local representative.

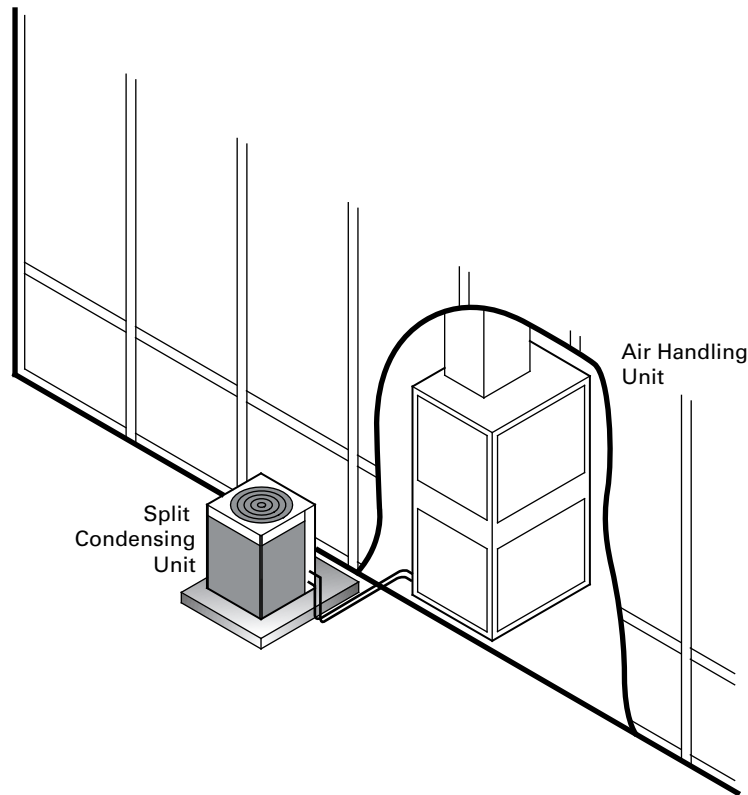
## 180° Blower Rotation

The 4.6, 6.25, and 8.33 ton standard air handler blower section can be rotated 180° to change the discharge pattern. This modification must be done in the field and requires an additional kit. See unit installation guide.

## Low Ambient Cooling

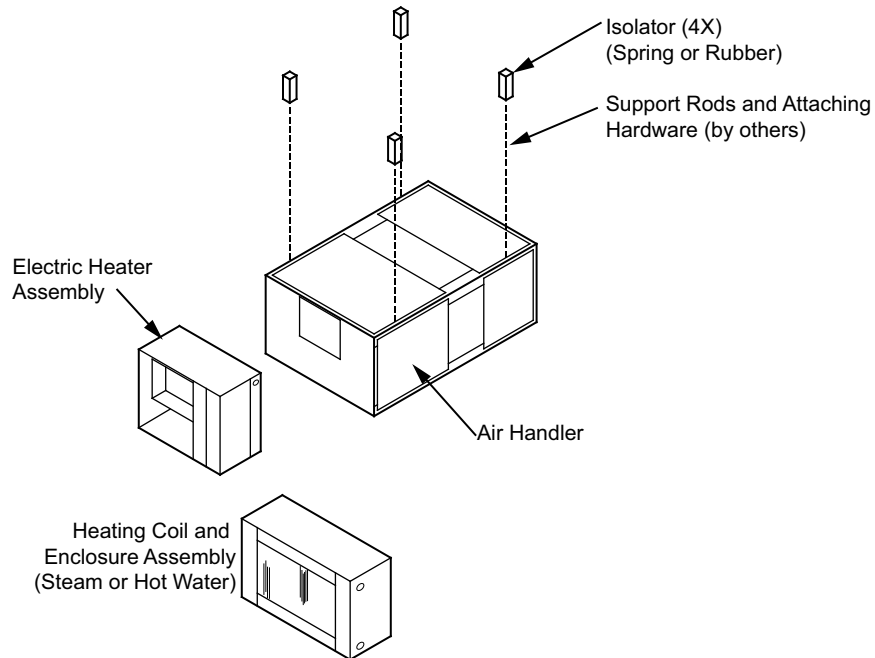
As manufactured, all Odyssey units have cooling capabilities down to 0°F. At temperatures below 55°F for single compressor units and 40°F for dual compressor units, some reduction in cooling capacity can be expected. At this temperature, equipment can provide approximately 60% of the mechanical cooling capacity. When the optional Low Ambient Accessory kit is field installed, the full capacity of the unit is available down to 0°F. When using these units with control systems such as bypass changeover Variable Air Volume, make sure to consider the requirement for a head pressure control to allow low ambient cooling.

**Figure 4. Typical split system application**

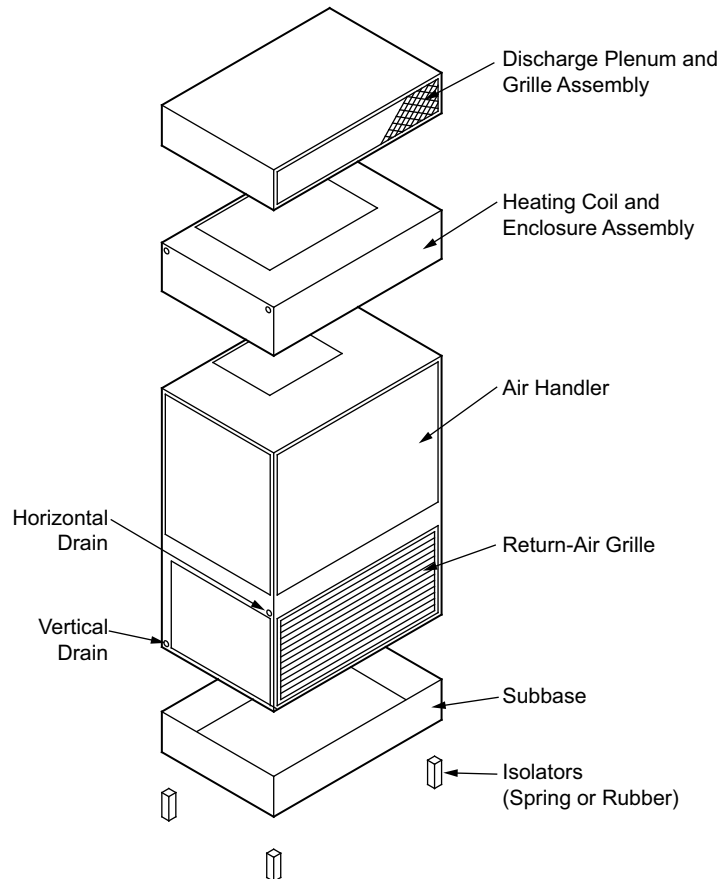




**Figure 5. Typical horizontal air handler application**



**Figure 6. Typical vertical air handler application**





# Selection Procedure

## Cooling Capacity

1. Calculate the building's total and sensible cooling loads at design conditions, using standardized calculation methods.
2. Size the equipment using the gross cooling capacity tables. Match the cooling loads at design conditions. For example, if the following specifies the building cooling requirements:  
Electrical Characteristics: 415/50/3  
Summer Design Conditions: Entering Evap Coil— 80°F DB/67°F WB (27°C DB/19°C WB), Outdoor Ambient— 95°F (35°C)  
Total Cooling Load: 75 MBh (22 kW)  
Sensible Cooling Load: 56 MBh (16.4 kW)  
Airflow: 2500 cfm (4248 m<sup>3</sup>/h)  
External Static Pressure: 0.74 inches of water gauge
3. Use [Table 13, p. 30](#) to determine that TWA076\*\*A with TWE076\*\*A has a gross cooling capacity of 80.0 MBh (23.4 kW) and 63.9 MBh (18.7 kW) sensible capacity at 95°F DB (35°C) ambient and 2500 cfm (4248 m<sup>3</sup>/h) with 80°F DB/67° F WB (27°C DB/19°C WB) air entering the evaporator.
4. To find the net cooling capacities, fan motor heat must be subtracted. Determine the total unit static pressure:  
External Static Duct System: 0.74 (191.8 Pa)  
Standard Filter: 0.10 in. (25 Pa)  
Supplementary Electric Heat: 0.16 in. (40.6 Pa)  
Total Static Pressure: 1 in. (249.09 Pa)

### Notes:

- *The Evaporator Fan Performance Table has included the effect of a 1 in. (249 Pa) filter already. Therefore, the actual Total Static Pressure is 1 - 0.1 = 0.9 in. (233.2 Pa). With 2500 cfm (4248 m<sup>3</sup>/h) and 0.93 in. (231.6 Pa), [Table 61, p. 70](#) shows 1.51 Bhp (ultra high static drive kit required).*
- *This formula can be used to calculate Fan Motor Heat:*  
$$3.15 \times \text{Bhp} = \text{MBh}$$
$$3.15 \times 1.51 = 4.75 \text{ MBh}$$
$$\text{Net Total Cooling Capacity} = 80.0 \text{ MBh} - 4.75 \text{ MBh} = 75.25 \text{ MBh} (22.1 \text{ kW})$$
$$\text{Net Sensible Cooling Capacity} = 63.9 \text{ MBh} - 4.75 \text{ MBh} = 59.15 \text{ MBh} (17.3 \text{ kW})$$

## Heating Capacity

1. Calculate the building heating load using the Trane calculation form or any other standard accepted method.
2. Size the equipment to match the heating loads at design conditions. For example, if the following specifies the building heating requirements:  
Total Heating Load: 85.0 MBh (24.9 kW)  
Outdoor Ambient (Winter): 17°F DB (-8.3°C)  
Indoor Return Temperature: 70°F DB (21.1°C)  
Airflow: 2500 cfm (4248 m<sup>3</sup>/h)
3. [Table 45, p. 59](#) indicates the mechanical heating portion of the heat pump will provide 44.6 MBh for the winter design conditions. Full heat load must be carried by the supplementary heater in the unlikely event the heat pump malfunctions. From [Table 75, p. 81](#), the 24.92 kW heater at 460V gas a capacity of 85,051 MBh. From [Table 79, p. 84](#), the 24.92 kW heater at 460V indicates the heater model is BAYHTRP425.

## Air Delivery

1. The external static pressure drop through the air distribution system is 0.74 inches of water gauge, use [Table 74, p. 81](#) to determine that the static pressure drop through the electric heater is 0.08 inches of water ( $0.74 + 0.12 = 0.86$  in.).
2. Enter [Table 61, p. 70](#) for TWE0764DA at 2500 cfm (4248 m<sup>3</sup>/h) and 0.9 in. (249 Pa) static pressure. The ultra high static motor at 944 RPM gives the desired airflow.



# Model Number Description

## Heat Pump Condenser

### Digit 1, 2, 3 — Unit Function

TWA = Split System Heat Pump

### Digit 4, 5, 6 — Tonnage

060 = 5 Tons (50Hz)  
076 = 6.25 Tons (50Hz)  
101 = 8.33 Tons (50Hz)  
156 = 13.0 Tons (50Hz)  
201 = 16.7 Tons (50Hz)

### Digit 7 — Refrigerant

4 = R-410A

### Digit 8 — Voltage

D = 380–415 Vac- 3 PH (50Hz)

### Digit 9 — Refrigeration Circuit/Stage

A = 1 Compressor/1 Line/1 Stage (Single)  
D = 2 Compressors/2 Line/2 Stage (Dual)

### Digit 10 — Major Design Sequence

B = Rev B

### Digit 11 — Minor Design Sequence

A = Rev A

### Digit 12, 13 — Service Digits

\*\*

### Digit 14 — Efficiency Generation

A = Generation A

### Digit 15 — Controls

S = Symbio™

### Digit 16 — None

0 = None

### Digit 17 — Coil Protection

1 = Standard Coil w/ Coil Guard  
3 = Black Epoxy Pre-Coated Condenser Coil with Coil Guard (FIN/TUBE)

### Digit 18, 19, 20 — None

0 = None

### Digit 21 — Communications Options

0 = No Option  
1 = Advanced Diagnostics and BACnet® BAS  
2 = Advanced Diagnostics and LonTalk® Communications Interface (LCI)

### Digit 22 to 40 — None

0 = None

## Air Handler

**Digit 1, 2, 3 — Unit Function**

**TWE** = Air Handler

**Digit 4, 5, 6— Tonnage**

**051** = 4.6 Tons (50Hz)

**072** = 6 Tons (50Hz)

**076** = 6.25 Tons (50Hz)

**101** = 8.33 Tons (50Hz)

**156** = 13.0 Tons (50Hz)

**201** = 16.7 Tons (50Hz)

**Digit 7 — Refrigerant**

**4** = R-410A

**Digit 8 — Voltage**

**D** = 380–415 Vac - 3 PH (50 Hz)

**Digit 9 — Refrigeration Circuit/Stage**

**A** = Single Circuit

**B** = Dual Circuit

**Digit 10 — Major Design Sequence**

**B** = Rev B

**Digit 11 — Minor Design Sequence**

**A** = Rev A

**Digit 12, 13 — Service Digits**

\*\*

**Digit 14 — Efficiency Generation**

**A** = Generation A

**Digit 15 — Controls**

**1** = Constant Volume

**Digit 16 — Indoor Fan Sizes**

**0** = Standard Motor

**Digit 17 to 40 — None**

**0** = None



# General Data

**Table 5. General data for 5 - 6.25 ton (TWA0604DA\* - TWA0764DD\*) heat pump, 50 Hz**

	5 Tons Single Compressor TWA0604DA*	5 Tons Dual Compressor TWA0604DD*	6.25 Tons Single Compressor TWA0764DA*	6.25 Tons Dual Compressor TWA0764DD*
<b>Cooling Performance - Gross Cooling Capacity</b>				
Matched Air Handler	TWE0764DA*	TWE0724DB*	TWE0764DA*	TWE0764DB*
AHRI Rated Airflow - (m <sup>3</sup> /hr)	2,000 (3,398)	2,000 (3,398)	2,500 (4,248)	2,500 (4,248)
Matched Air Handler - Btu (kW)	68,000 (19.9)	66,000 (19.3)	79,000 (23.2)	81,000 (23.7)
Condensing Unit Only - Btu (kW)	62,000 (18.2)	58,000 (17.0)	74,000 (21.7)	72,000 (21.1)
AHRI Net Cooling Capacity - Btu (kW)	67,000 (19.6)	65,000 (19.0)	77,000 (22.6)	79,000 (23.2)
<b>Efficiency</b>				
Matched Air Handler/Condensing Unit Only	11.8 / 13.1	11.8 / 12.9	11.5 / 12.1	11.8 / 13.1
System Power/Condensing Unit Power (kW)	5.1 / 4.7	4.7 / 4.3	6.7 / 6.0	5.9 / 5.3
<b>Heating Performance - AHRI Htg/Matched AH</b>				
High Temperature Capacity	56,000 (16.4)	54,000 (15.8)	69,000 (20.2)	67,000 (19.6)
System kW/COP	4.2 / 3.4	3.9 / 3.4	5.3 / 3.4	4.8 / 3.4
Low Temperature Capacity	36,000 (10.6)	30,000 (8.8)	41,000 (12)	38,000 (11.1)
System kW/COP	3.7 / 2.3	3.6 / 2.3	4.8 / 2.3	4.5 / 2.3
<b>Compressor</b>				
Type	Scroll	Scroll	Scroll	Scroll
No.	1	2	1	2
<b>System Data</b>				
No. Refrigerant Circuits <sup>(a)</sup>	1	2	1	2
Suction Line Connection - in. (mm) OD <sup>(a)</sup>	1-3/8 (34.90)	7/8 (22.23)	1-3/8 (34.90)	1-1/8 (28.60)
Liquid Line Connection - in. (mm) OD <sup>(a)</sup>	1/2 (12.70)	1/2 (12.70)	5/8 (15.88)	1/2 (12.70)
<b>Outdoor Coil</b>				
Type	Lanced	Lanced	Lanced	Lanced
Tube Size - in. (mm) OD	3/8 (9.50)	3/8 (9.50)	3/8 (9.50)	3/8 (9.50)
Face Area, sq ft (m <sup>2</sup> )	19.24 (1.79)	19.24 (1.79)	19.24 (1.79)	23.96 (2.23)
Rows/FPI (Fins per inch)	2/18	2/18	2/18	2/18
<b>Outdoor Fan</b>				
Type	Propeller	Propeller	Propeller	Propeller
No. Used/Diameter - in. (mm)	1/26 (660.40)	1/26 (660.40)	1/26 (660.40)	1/26 (660.40)
Drive Type/No. Speeds	Direct/1	Direct/1	Direct/1	Direct/1
CFM (m <sup>3</sup> /h)	4,800 (8,155)	4,500 (7,646)	4,800 (8,155)	4,500 (7,646)
No. Motor/HP (kW)	1/0.33 (0.25)	1/0.33 (0.25)	1/0.33 (0.25)	1/0.33 (0.25)
Motor RPM	925	925	925	925
<b>Refrigerant Charge (Field Supplied)</b>				
lbs (kg) of R-410A	20.1 (9.1)	11/11.1 (5/5)	18.8 (8.5)	11.8/11.8 (5.4/5.4)
<b>Shipping Dimensions</b>				
HxWxD - in. (mm)	45" x 45.25" x 39" (1143 x 1149 x 991)	45" x 55" x 42" (1143 x 1397 x 1067)	45" x 45.25" x 39" (1143 x 1149 x 991)	45" x 55" x 42" (1143 x 1397 x 1067)

<sup>(a)</sup> Refer to refrigerant piping applications manual for line sizing and line length.

**Table 6. General data for 8.33 - 16.7 ton (TWA1014DA\* - TWA2014DD\*) heat pump, 50 Hz**

	8.33 Tons Single Compressor TWA1014DA*	8.33 Tons Dual Compressor TWA1014DD*	13 Tons Dual Compressor TWA1564DD*	16.7 Tons Dual Compressor TWA2014DD*
<b>Cooling Performance - Gross Cooling Capacity</b>				
Matched Air Handler	TWE1014DA*	TWE1014DB*	TWE1564DB*	TWE2014DB*
AHRI Rated Airflow - (m <sup>3</sup> /hr)	3,333 (5,663)	3,333 (5,663)	5,000 (8,495)	6,667 (11,327)
Matched Air Handler - Btu (kW)	108,000 (31.7)	105,000 (30.8)	169,000 (49.5)	222,000 (65.1)
Condensing Unit Only - Btu (kW)	100,000 (29.3)	96,000 (28.1)	158,000 (46.3)	220,000 (64.5)
AHRI Net Cooling Capacity - Btu (kW)	105,000 (30.8)	102,000 (29.9)	164,000 (48.1)	215,000 (63.0)
<b>Efficiency</b>				
Matched Air Handler/Condensing Unit Only	11.8 / 12.9	11.8 / 13.0	11.6 / 12.8	10.7 / 13.2
System Power/Condensing Unit Power (kW)	8.2 / 7.3	7.9 / 7.0	13.0 / 11.4	18.9 / 16.7
<b>Heating Performance - AHRI Htg/Matched AH</b>				
High Temperature Capacity	93,000 (27.3)	88,000 (25.8)	146,000 (42.8)	187,000 (54.8)
System kW/COP	7 / 3.4	6.4 / 3.4	11.2 / 3.3	16.2 / 3.3
Low Temperature Capacity	59,000 (17.3)	55,000 (16.1)	91,000 (26.7)	118,000 (34.6)
System kW/COP	6.2 / 2.3	5.8 / 2.3	9.9 / 2.2	14.5 / 2.2
<b>Compressor</b>				
Type	Scroll	Scroll	Scroll	Scroll
No.	1	2	2	2
<b>System Data</b>				
No. Refrigerant Circuits <sup>(a)</sup>	1	2	2	2
Suction Line Connection - in. (mm) OD <sup>(a)</sup>	1-3/8 (34.90)	1-1/8 (28.60)	1-1/8 (28.60)	1-3/8 (34.90)
Liquid Line Connection - in. (mm) OD <sup>(a)</sup>	1/2 (12.70)	1/2 (12.70)	1/2 (12.70)	5/8 (15.88)
<b>Outdoor Coil</b>				
Type	Lanced	Lanced	Lanced	Lanced
Tube Size - in. (mm) OD	3/8 (9.50)	3/8 (9.50)	3/8 (9.50)	3/8 (9.50)
Face Area, sq ft (m <sup>2</sup> )	29.02 (2.70)	29.02 (2.70)	52.6 (4.89)	52.6 (4.89)
Rows/FPI (Fins per inch)	2/18	2/18	2/18	2/18
<b>Outdoor Fan</b>				
Type	Propeller	Propeller	Propeller	Propeller
No. Used/Diameter - in. (mm)	1/28 (711.20)	1/28 (711.20)	2/28 (711.20)	2/28 (711.20)
Drive Type/No. Speeds	Direct/1	Direct/1	Direct/1	Direct/1
CFM (m <sup>3</sup> /h)	7,400 (12,573)	7,400 (12,573)	14,600 (24,806)	14,600 (24,806)
No. Motor/HP (kW)	1/1.75 (0.56)	1/1.75 (0.56)	1/1.75 (0.56)	1/1.75 (0.56)
Motor RPM	950	950	950	950
<b>Refrigerant Charge (Field Supplied)</b>				
lbs (kg) of R-410A	27.3 (12.4)	13.9/14 (6.3/6.4)	25.6/25.2(11.6/11.4)	22.4/22.3 (10.2/10.1)
<b>Shipping Dimensions</b>				
HxWxD - in. (mm)	52.1" x 55" x 42" (1323 x 1397 x 1067)	52.1" x 55" x 42" (1323 x 1397 x 1067)	51.1" x 96" x 48" (1298 x 2438 x 1219)	51.1" x 96" x 48" (1298 x 2438 x 1219)

<sup>(a)</sup> Refer to refrigerant piping applications manual for line sizing and line length.



## General Data

**Table 7. General data for 4.6 - 6.25 ton (TWE0514DA\* - TWE0764DB\*) air handler, 50 Hz**

	<b>4.6 Tons</b>	<b>6 Tons</b>	<b>6.25 Tons</b>	<b>6.25 Tons</b>
	<b>Single Circuit</b>	<b>Dual Circuit</b>	<b>Single Circuit</b>	<b>Dual Circuit</b>
	<b>TWE0514DA*</b>	<b>TWE0724DB*</b>	<b>TWE0764DA*</b>	<b>TWE0764DB*</b>
<b>System Data</b>				
No. Refrigerant Circuits	1	2	1	2
Suction Line Connection, in. (mm) OD	1 1/8 (28.58)	1 1/8 (25.60)	1 3/8 (34.90)	1 1/8 (25.60)
Liquid Line Connection, in. (mm) OD	1/2 (12.70)	1/2 (12.70)	1/2 (12.70)	1/2 (12.70)
<b>Indoor Coil</b>				
Type	Lanced/Intertwined	Lanced/Intertwined	Lanced/Intertwined	Lanced/Intertwined
Tube Size, in. (mm)	3/8 (9.50)	3/8 (9.50)	3/8 (9.50)	3/8 (9.50)
Face Area, sq. ft. (m <sup>2</sup> )	5.0 (0.46)	8.1 (0.75)	8.1 (0.75)	8.1 (0.75)
Rows/FPI	4/14	4/14	4/14	4/14
Refrigerant Control	Expansion Valve	Expansion Valve	Expansion Valve	Expansion Valve
Drain Connection Size, in. (mm)	1.0 (25.40) PVC	1.0 (25.40) PVC	1.0 (25.40) PVC	1.0 (25.40) PVC
<b>Indoor Fan</b>				
Type	Centrifugal	Centrifugal	Centrifugal	Centrifugal
No. Used/Diameter x Width, in. (mm)	1/12 x 12 (304.8 x 304.8)	1/15 x 15 (381.0 x 381.0)	1/15 x 15 (381.0 x 381.0)	1/15 x 15 (381.0 x 381.0)
Drive Type/No. Speeds	Belt/Adjustable	Belt/Adjustable	Belt/Adjustable	Belt/Adjustable
CFM (m <sup>3</sup> /h) (Nominal)	1,700 (2,889)	2,000 (3,398)	2,500 (4,248)	2,500 (4,248)
No. Motors	1	1	1	1
Motor HP (in 60Hz) - Standard/Oversized (kw)	0.75/1.0 (0.56/0.75)	1.5/2.0/3.0 (1.10/1.50/2.2)	1.5/2.0/3.0 (1.10/1.50/2.2)	1.5/2.0/3.0 (1.10/1.50/2.2)
Motor RPM	1450	1450	1450	1450
Motor Frame Size	56	56H	56H	56H
<b>Filters</b>				
Type/Furnished	Throwaway/Yes	Throwaway/Yes	Throwaway/Yes	Throwaway/Yes
(No.)/Size Recommended	(1) 16 x 20 x 1; (1) 20 x 20 x 1	(3) 16 X 25 X 1	(3) 16 X 25 X 1	(3) 16 X 25 X 1
MERV 13 (No.)/Size Recommended	(1) 16 x 20 x 2 (1) 20 x 20 x 2	(3) 16 x 25 x 2	(3) 16 x 25 x 2	(3) 16 x 25 x 2
<b>Shipping Dimensions</b>				
HxWxD - in. (mm)	55.1" x 27.5" x 43.5" (1399.5 x 698.5 x 1104.9)	61.2" x 30.5" x 53" (1554.5 x 774.7 x 1346.2)	61.2" x 30.5" x 53" (1554.5 x 774.7 x 1346.2)	61.2" x 30.5" x 53" (1554.5 x 774.7 x 1346.2)



**Table 8. General data for 8.33 - 16.7 ton (TWE1014DA\* - TWE2014DB\*) air handler, 50 Hz**

	<b>8.33 Tons</b>	<b>8.33 Tons</b>	<b>13 Tons</b>	<b>16.7 Tons</b>
	<b>Single Circuit</b>	<b>Dual Circuit</b>	<b>Dual Circuit</b>	<b>Dual Circuit</b>
	<b>TWE1014DA*</b>	<b>TWE1014DB*</b>	<b>TWE1564DB*</b>	<b>TWE2014DB*</b>
<b>System Data</b>				
No. Refrigerant Circuits	1	2	2	2
Suction Line Connection, in. (mm) OD	1 3/8 (34.90)	1 1/8 (25.60)	1 3/8 (34.90)	1 3/8 (34.90)
Liquid Line Connection, in. (mm) OD	1/2 (12.70)	1/2 (12.70)	1/2 (12.70)	5/8 (15.88)
<b>Indoor Coil</b>				
Type	Lanced/Intertwined	Lanced/Intertwined	Lanced/Intertwined	Lanced/Intertwined
Tube Size, in. (mm)	3/8 (9.50)	3/8 (9.50)	3/8 (9.50)	3/8 (9.50)
Face Area, sq. ft. (m <sup>2</sup> )	11.2 (1.04)	11.2 (1.04)	16.3 (1.51)	21.7 (2.01)
Rows/FPI	4/14	4/14	4/14	3/14
Refrigerant Control	Expansion Valve	Expansion Valve	Expansion Valve	Expansion Valve
Drain Connection Size, in. (mm)	1.0 (25.40) PVC	1.0 (25.40) PVC	1.0 (25.40) PVC	1.0 (25.40) PVC
<b>Indoor Fan</b>				
Type	Centrifugal	Centrifugal	Centrifugal	Centrifugal
No. Used/Diameter x Width, in. (mm)	1/15 x 15 (381.0 x 381.0)	1/15 x 15 (381.0 x 381.0)	2/15 x 15 (381.0 x 381.0)	2/15 x 15 (381.0 x 381.0)
Drive Type/No. Speeds	Belt/Adjustable	Belt/Adjustable	Belt/Adjustable	Belt/Adjustable
CFM (m <sup>3</sup> /h) (Nominal)	3,350 (5,692)	3,350 (5,692)	5,000 (8,495)	6,675 (11,341)
No. Motors	1	1	1	1
Motor HP* (in 60Hz) - Standard/Oversized (kw)	2.0/3.0 (1.50/2.20)	2.0/3.0 (1.50/2.20)	3.0/5.0 (2.20/3.70)	3.0/5.0/7.5 (2.20/3.70/ 5.60)
Motor RPM	1500	1500	1,450/1,500	1,500/2,930
Motor Frame Size	56HZ	56HZ	56HZ	184T
<b>Filters</b>				
Type/Furnished	Throwaway/Yes	Throwaway/Yes	Throwaway/Yes	Throwaway/Yes
(No.)/Size Recommended	(4) 16 X 25 X 1	(4) 16 X 25 X 1	(8) 15 X 20 X 2	(4) 16 X 25 X 2; (4) 16 X 20 X 2
MERV 13 (No.)/Size Recommended	(4) 16 x 25 x 2	(4) 16 x 25 x 2	(8) 15 x 20 x 2	(4) 16 x 25 x 2 (4) 16 x 20 x 2
<b>Shipping Dimensions</b>				
HxWxD - in. (mm)	61.2" x 30.5" x 69" (1554.5 x 774.7 x 1752.6)	61.2" x 30.5" x 69" (1554.5 x 774.7 x 1752.6)	76.3" x 33.8" x 85" (1938 x 850.9 x 2159)	79.1" x 35.8" x 95" (2009.1 x 909.3 x 2413)



# Performance Data

## Gross Cooling Capacities

Table 9. Gross cooling capacities (MBH) TWA0604\*A condensing unit with TWE0764\*A air handler (IP)

CFM	Ent DB (°F)	Ambient Temperature (°F)						Ambient Temperature (°F)						Ambient Temperature (°F)					
		85						95						105					
		Entering Wet Bulb (°F)						Entering Wet Bulb (°F)						Entering Wet Bulb (°F)					
		61		67		73		61		67		73		61		67		73	
		MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
1800	75	63.7	53.5	70.8	41.3	78.3	28.7	60.4	51.9	67.1	39.8	74.2	27.2	57.0	50.3	63.2	38.3	70.0	25.7
	80	64.2	63.5	70.6	51.2	78.1	38.7	61.1	61.1	66.9	49.7	74.0	37.2	58.2	58.2	63.1	48.2	69.8	35.7
	85	67.3	67.3	70.7	61.1	77.9	48.7	64.5	64.5	67.1	59.6	73.8	47.2	61.5	61.5	63.3	58.1	69.6	45.7
	90	71.3	71.2	71.3	71.2	77.8	58.7	67.9	67.9	68.1	68.1	73.8	57.2	64.8	64.8	65.0	65.0	69.6	55.6
2000	75	65.0	56.7	72.0	43.2	79.5	29.2	61.6	55.2	68.2	41.7	75.3	27.7	58.1	53.6	64.2	40.1	70.9	26.2
	80	66.1	66.1	71.8	54.3	79.3	40.3	63.2	63.2	68.1	52.7	75.1	38.8	60.2	60.2	64.2	51.1	70.7	37.3
	85	69.7	69.7	72.1	65.2	79.1	51.4	66.8	66.8	68.4	63.7	74.9	50.0	63.6	63.6	64.5	62.2	70.6	48.4
	90	73.4	73.4	73.5	73.5	79.1	62.5	70.3	70.3	70.4	70.4	74.9	61.0	67.0	67.0	67.1	67.1	70.7	59.4
2200	75	66.1	60.0	73.0	45.1	80.5	29.7	62.7	58.4	69.1	43.6	76.2	28.2	59.0	56.8	65.0	42.0	71.7	26.6
	80	68.1	68.1	72.9	57.2	80.3	41.9	65.0	65.0	69.0	55.6	76.0	40.4	61.9	61.9	65.0	54.0	71.5	38.9
	85	71.8	71.8	73.3	69.3	80.1	54.2	68.7	68.7	69.5	67.8	75.8	52.7	65.4	65.4	65.7	65.7	71.4	51.1
	90	75.6	75.6	75.8	75.8	80.1	66.3	72.4	72.4	72.5	72.5	75.9	64.8	68.9	68.9	69.0	69.0	71.6	63.2
2400	75	67.1	63.2	73.8	47.0	81.3	30.1	63.6	61.6	69.8	45.4	76.9	28.6	60.0	60.0	65.7	43.8	72.4	27.1
	80	69.8	69.8	73.8	60.1	81.1	43.5	66.6	66.6	69.9	58.6	76.7	42.0	63.3	63.3	65.8	56.9	72.2	40.5
	85	73.7	73.7	74.4	73.4	80.9	56.9	70.4	70.4	70.7	70.7	76.5	55.3	67.0	67.0	67.1	67.1	72.1	53.8
	90	77.6	77.6	77.7	77.7	81.1	70.1	74.2	74.2	74.3	74.3	76.8	68.5	70.6	70.6	70.7	70.7	72.4	67.0
CFM	Ent DB (°F)	Ambient Temperature (°F)						Ambient Temperature (°F)											
		115						125											
		Entering Wet Bulb (°F)						Entering Wet Bulb (°F)											
		61		67		73		61		67		73							
		MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC						
1800	75	53.3	48.7	59.2	36.6	65.5	24.1	49.4	46.9	54.8	34.9	60.7	22.5						
	80	55.1	55.1	59.1	46.5	65.3	34.2	51.8	51.8	54.8	44.8	60.5	32.5						
	85	58.3	58.3	59.4	56.4	65.2	44.2	54.8	54.8	55.2	54.7	60.4	42.5						
	90	61.5	61.5	61.6	61.6	65.2	54.0	57.9	57.9	58.0	58.0	60.5	52.4						
2000	75	54.3	51.9	60.0	38.5	66.4	24.6	50.4	50.1	55.5	36.8	61.4	22.9						
	80	56.9	56.9	60.0	49.5	66.2	35.8	53.4	53.4	55.6	47.7	61.2	34.1						
	85	60.2	60.2	60.6	60.5	66.0	46.9	56.5	56.5	56.6	56.6	61.1	45.1						
	90	63.5	63.5	63.6	63.6	66.2	57.8	59.7	59.7	59.8	59.8	61.4	56.1						
2200	75	55.3	55.1	60.7	40.4	67.0	25.1	51.5	51.5	56.1	38.6	62.0	23.4						
	80	58.4	58.4	60.8	52.4	66.8	37.4	54.7	54.7	56.3	50.6	61.8	35.7						
	85	61.9	61.9	62.0	62.0	66.7	49.5	58.0	58.0	58.1	58.1	61.8	47.8						
	90	65.2	65.2	65.3	65.3	67.0	61.6	61.2	61.2	61.3	61.3	62.1	59.9						
2400	75	56.3	56.3	61.3	42.2	67.6	25.5	52.6	52.6	56.6	40.4	62.5	23.8						
	80	59.8	59.8	61.5	55.3	67.4	38.9	56.0	56.0	57.0	53.5	62.3	37.3						
	85	63.3	63.3	63.4	63.4	67.4	52.1	59.3	59.3	59.3	59.3	62.3	50.4						
	90	66.7	66.7	66.8	66.8	67.8	65.4	62.5	62.5	62.6	62.6	62.9	62.9						

**Notes:**

1. All capacities shown are gross and have not considered indoor fan heat. To obtain net cooling, subtract indoor fan heat.
2. MBH = Total Gross Capacity, SHC = Sensible Heat Capacity

**Table 10. Gross cooling capacities (kW) TWA0604\*A condensing unit with TWE0764\*A air handler (SI)**

Airflow m <sup>3</sup> /hr	Ent DB (°C)	Ambient Temperature (°C)						Ambient Temperature (°C)						Ambient Temperature (°C)					
		29						35						41					
		Entering Wet Bulb (°C)						Entering Wet Bulb (°C)						Entering Wet Bulb (°C)					
		16		19		23		16		19		23		16		19		23	
		kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC
3058	24	18.7	15.7	20.7	12.1	23.0	8.4	17.7	15.2	19.7	11.7	21.8	8.0	16.7	14.8	18.5	11.2	20.5	7.5
	27	18.8	18.6	20.7	15.0	22.9	11.3	17.9	17.9	19.6	14.6	21.7	10.9	17.1	17.1	18.5	14.1	20.5	10.5
	29	19.7	19.7	20.7	17.9	22.8	14.3	18.9	18.9	19.7	17.5	21.6	13.8	18.0	18.0	18.6	17.0	20.4	13.4
	32	20.9	20.9	20.9	20.9	22.8	17.2	19.9	19.9	19.9	19.9	21.6	16.8	19.0	19.0	19.0	19.0	20.4	16.3
3398	24	19.1	16.6	21.1	12.7	23.3	8.5	18.1	16.2	20.0	12.2	22.1	8.1	17.0	15.7	18.8	11.8	20.8	7.7
	27	19.4	19.4	21.1	15.9	23.2	11.8	18.5	18.5	19.9	15.4	22.0	11.4	17.6	17.6	18.8	15.0	20.7	10.9
	29	20.4	20.4	21.1	19.1	23.2	15.1	19.6	19.6	20.0	18.7	21.9	14.6	18.6	18.6	18.9	18.2	20.7	14.2
	32	21.5	21.5	21.6	21.6	23.2	18.3	20.6	20.6	20.6	20.6	22.0	17.9	19.6	19.6	19.7	19.7	20.7	17.4
3738	24	19.4	17.6	21.4	13.2	23.6	8.7	18.4	17.1	20.2	12.8	22.3	8.3	17.3	16.6	19.0	12.3	21.0	7.8
	27	19.9	19.9	21.4	16.8	23.5	12.3	19.1	19.1	20.2	16.3	22.3	11.9	18.1	18.1	19.1	15.8	21.0	11.4
	29	21.1	21.1	21.5	20.3	23.5	15.9	20.1	20.1	20.4	19.9	22.2	15.4	19.2	19.2	19.3	19.3	20.9	15.0
	32	22.2	22.2	22.2	22.2	23.5	19.4	21.2	21.2	21.2	21.2	22.2	19.0	20.2	20.2	20.2	20.2	21.0	18.5
4078	24	19.7	18.5	21.6	13.8	23.8	8.8	18.6	18.1	20.5	13.3	22.5	8.4	17.6	17.6	19.2	12.8	21.2	7.9
	27	20.5	20.5	21.6	17.6	23.8	12.8	19.5	19.5	20.5	17.2	22.5	12.3	18.6	18.6	19.3	16.7	21.1	11.9
	29	21.6	21.6	21.8	21.5	23.7	16.7	20.6	20.6	20.7	20.7	22.4	16.2	19.6	19.6	19.7	19.7	21.1	15.8
	32	22.7	22.7	22.8	22.8	23.8	20.5	21.7	21.7	21.8	21.8	22.5	20.1	20.7	20.7	20.7	20.7	21.2	19.6
Airflow m <sup>3</sup> /hr	Ent DB (°C)	Ambient Temperature (°C)						Ambient Temperature (°C)											
		46						52											
		Entering Wet Bulb (°C)						Entering Wet Bulb (°C)											
		16		19		23		16		19		23							
		kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC						
3058	24	15.6	14.3	17.3	10.7	19.2	7.1	14.5	13.7	16.1	10.2	17.8	6.6						
	27	16.2	16.2	17.3	13.6	19.1	10.0	15.2	15.2	16.1	13.1	17.7	9.5						
	29	17.1	17.1	17.4	16.5	19.1	12.9	16.1	16.1	16.2	16.0	17.7	12.5						
	32	18.0	18.0	18.1	18.1	19.1	15.8	17.0	17.0	17.0	17.0	17.7	15.3						
3398	24	15.9	15.2	17.6	11.3	19.4	7.2	14.8	14.7	16.3	10.8	18.0	6.7						
	27	16.7	16.7	17.6	14.5	19.4	10.5	15.6	15.6	16.3	14.0	17.9	10.0						
	29	17.7	17.7	17.8	17.7	19.3	13.7	16.6	16.6	16.6	16.6	17.9	13.2						
	32	18.6	18.6	18.6	18.6	19.4	16.9	17.5	17.5	17.5	17.5	18.0	16.5						
3738	24	16.2	16.1	17.8	11.8	19.6	7.3	15.1	15.1	16.4	11.3	18.2	6.9						
	27	17.1	17.1	17.8	15.3	19.6	10.9	16.0	16.0	16.5	14.8	18.1	10.5						
	29	18.1	18.1	18.2	18.2	19.6	14.5	17.0	17.0	17.0	17.0	18.1	14.0						
	32	19.1	19.1	19.1	19.1	19.6	18.1	17.9	17.9	18.0	18.0	18.2	17.6						
4078	24	16.5	16.5	18.0	12.4	19.8	7.5	15.4	15.4	16.6	11.9	18.3	7.0						
	27	17.5	17.5	18.0	16.2	19.8	11.4	16.4	16.4	16.7	15.7	18.3	10.9						
	29	18.5	18.5	18.6	18.6	19.7	15.3	17.4	17.4	17.4	17.4	18.3	14.8						
	32	19.6	19.6	19.6	19.6	19.9	19.2	18.3	18.3	18.3	18.3	18.4	18.4						

**Notes:**

1. All capacities shown are gross and have not considered indoor fan heat. To obtain net cooling, subtract indoor fan heat.
2. kW = Total Gross Capacity, SHC = Sensible Heat Capacity



**Performance Data**

**Table 11. Gross cooling capacities (MBH) TWA0604\*D condensing unit with TWE0724\*B air handler (IP)**

CFM	Ent DB (°F)	Ambient Temperature (°F)						Ambient Temperature (°F)						Ambient Temperature (°F)					
		85						95						105					
		Entering Wet Bulb (°F)						Entering Wet Bulb (°F)						Entering Wet Bulb (°F)					
		61		67		73		61		67		73		61		67		73	
		MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
1800	75	61.2	52.1	68.4	40.4	76.7	28.2	58.4	50.8	65.2	39.1	73.1	26.9	55.5	49.4	61.8	37.8	69.3	25.5
	80	61.8	61.3	68.1	50.1	76.2	38.1	59.3	59.3	65.0	48.8	72.7	36.8	56.8	56.8	61.7	47.4	68.9	35.5
	85	65.1	65.1	68.2	59.8	75.9	47.9	62.7	62.7	65.1	58.5	72.3	46.6	60.1	60.1	61.8	57.2	68.5	45.3
	90	69.0	68.6	69.0	68.6	75.7	57.6	66.1	66.1	66.3	66.3	72.1	56.3	63.5	63.5	63.6	63.6	68.5	55.0
2000	75	62.5	55.4	69.7	42.3	77.9	28.7	59.6	54.0	66.3	41.0	74.3	27.4	56.6	52.6	62.9	39.6	70.3	26.1
	80	63.9	63.9	69.5	53.1	77.5	39.7	61.4	61.4	66.2	51.7	73.8	38.5	58.8	58.8	62.8	50.3	69.9	37.1
	85	67.6	67.6	69.7	63.9	77.2	50.7	65.0	65.0	66.5	62.6	73.4	49.3	62.3	62.3	63.1	61.2	69.7	47.9
	90	71.4	71.4	71.5	71.5	77.1	61.5	68.6	68.6	68.8	68.8	73.5	60.1	65.8	65.8	66.0	66.0	69.7	58.7
2200	75	63.7	58.6	70.7	44.2	79.0	29.2	60.7	57.2	67.3	42.8	75.2	27.9	57.6	55.8	63.8	41.4	71.2	26.6
	80	65.9	65.9	70.6	56.0	78.6	41.4	63.3	63.3	67.3	54.7	74.8	40.1	60.6	60.6	63.8	53.2	70.7	38.7
	85	69.7	69.7	71.0	68.0	78.3	53.4	67.1	67.1	67.8	66.7	74.5	52.0	64.2	64.2	64.6	63.7	70.6	50.6
	90	73.7	73.7	73.9	73.9	78.4	65.3	70.8	70.8	71.0	71.0	74.6	63.9	67.9	67.9	68.0	68.0	70.7	62.5
2400	75	64.7	61.7	71.7	46.0	79.9	29.7	61.7	60.4	68.2	44.6	76.0	28.4	58.7	57.6	64.5	43.2	71.9	27.1
	80	67.6	67.6	71.6	58.9	79.5	43.0	65.0	65.0	68.2	57.5	75.6	41.7	62.1	62.1	64.6	56.1	71.5	40.3
	85	71.7	71.7	72.3	71.8	79.3	56.0	68.9	68.9	69.2	68.9	75.4	54.6	65.9	65.9	66.0	66.0	71.4	53.2
	90	75.8	75.8	75.9	75.9	79.5	69.0	72.8	72.8	72.9	72.9	75.6	67.7	69.7	69.7	69.8	69.8	71.7	66.3
CFM	Ent DB (°F)	Ambient Temperature (°F)						Ambient Temperature (°F)											
		115						125											
		Entering Wet Bulb (°F)						Entering Wet Bulb (°F)											
		61		67		73		61		67		73							
		MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC						
1800	75	52.4	48.0	58.4	36.4	65.4	24.2	49.3	46.6	54.8	34.9	61.3	22.8						
	80	54.2	54.2	58.3	46.0	64.9	34.1	51.5	51.5	54.7	44.6	60.9	32.7						
	85	57.4	57.4	58.5	55.8	64.7	43.9	54.6	54.6	55.2	53.3	60.7	42.4						
	90	60.7	60.7	60.8	60.8	64.7	53.6	57.7	57.7	57.8	57.8	60.7	52.1						
2000	75	53.5	51.2	59.3	38.2	66.3	24.7	50.4	48.7	55.7	36.7	62.1	23.3						
	80	56.1	56.1	59.3	48.9	65.8	35.7	53.2	53.2	55.7	47.4	61.7	34.3						
	85	59.4	59.4	59.9	58.5	65.7	46.5	56.4	56.4	56.6	56.4	61.6	45.0						
	90	62.8	62.8	62.9	62.9	65.8	57.3	59.7	59.7	59.8	59.8	61.7	55.9						
2200	75	54.6	53.2	60.1	40.0	67.1	25.2	51.5	51.1	56.4	38.5	62.7	23.8						
	80	57.7	57.7	60.2	51.8	66.7	37.3	54.7	54.7	56.5	50.3	62.4	35.8						
	85	61.2	61.2	61.3	61.3	66.6	49.1	58.0	58.0	58.1	58.1	62.4	47.6						
	90	64.7	64.7	64.8	64.8	66.7	61.1	61.4	61.4	61.5	61.5	62.6	59.6						
2400	75	55.6	55.6	60.8	41.7	67.7	25.7	52.6	52.6	57.0	40.2	63.2	24.2						
	80	59.1	59.1	60.9	54.6	67.3	38.8	56.0	56.0	57.2	53.1	63.0	37.3						
	85	62.7	62.7	62.8	62.8	67.3	51.7	59.4	59.4	59.5	59.5	63.0	50.2						
	90	66.4	66.4	66.5	66.5	67.6	64.8	62.9	62.9	63.0	63.0	63.6	61.6						

**Notes:**

1. All capacities shown are gross and have not considered indoor fan heat. To obtain net cooling, subtract indoor fan heat.
2. MBH = Total Gross Capacity, SHC = Sensible Heat Capacity

**Table 12. Gross cooling capacities (kW) TWA0604\*D condensing unit with TWE0724\*B air handler (SI)**

Airflow m <sup>3</sup> /hr	Ent DB (°C)	Ambient Temperature (°C)						Ambient Temperature (°C)						Ambient Temperature (°C)					
		29						35						41					
		Entering Wet Bulb (°C)						Entering Wet Bulb (°C)						Entering Wet Bulb (°C)					
		16		19		23		16		19		23		16		19		23	
		kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC
3058	24	17.9	15.3	20.1	11.8	22.5	8.3	17.1	14.9	19.1	11.5	21.4	7.9	16.3	14.5	18.1	11.1	20.3	7.5
	27	18.1	18.0	20.0	14.7	22.3	11.2	17.4	17.4	19.0	14.3	21.3	10.8	16.7	16.7	18.1	13.9	20.2	10.4
	29	19.1	19.1	20.0	17.5	22.2	14.0	18.4	18.4	19.1	17.1	21.2	13.7	17.6	17.6	18.1	16.8	20.1	13.3
	32	20.2	20.1	20.2	20.1	22.2	16.9	19.4	19.4	19.4	19.4	21.1	16.5	18.6	18.6	18.6	18.6	20.1	16.1
3398	24	18.3	16.2	20.4	12.4	22.8	8.4	17.5	15.8	19.4	12.0	21.8	8.0	16.6	15.4	18.4	11.6	20.6	7.6
	27	18.7	18.7	20.4	15.6	22.7	11.6	18.0	18.0	19.4	15.2	21.6	11.3	17.2	17.2	18.4	14.8	20.5	10.9
	29	19.8	19.8	20.4	18.7	22.6	14.8	19.1	19.1	19.5	18.3	21.5	14.4	18.3	18.3	18.5	17.9	20.4	14.0
	32	20.9	20.9	21.0	21.0	22.6	18.0	20.1	20.1	20.2	20.2	21.5	17.6	19.3	19.3	19.3	19.3	20.4	17.2
3738	24	18.7	17.2	20.7	13.0	23.2	8.6	17.8	16.8	19.7	12.6	22.0	8.2	16.9	16.4	18.7	12.1	20.9	7.8
	27	19.3	19.3	20.7	16.4	23.0	12.1	18.6	18.6	19.7	16.0	21.9	11.7	17.7	17.7	18.7	15.6	20.7	11.3
	29	20.4	20.4	20.8	19.9	23.0	15.6	19.7	19.7	19.9	19.5	21.8	15.2	18.8	18.8	18.9	18.7	20.7	14.8
	32	21.6	21.6	21.6	21.6	23.0	19.1	20.8	20.8	20.8	20.8	21.9	18.7	19.9	19.9	19.9	19.9	20.7	18.3
4078	24	19.0	18.1	21.0	13.5	23.4	8.7	18.1	17.7	20.0	13.1	22.3	8.3	17.2	16.9	18.9	12.7	21.1	7.9
	27	19.8	19.8	21.0	17.3	23.3	12.6	19.0	19.0	20.0	16.9	22.1	12.2	18.2	18.2	18.9	16.4	21.0	11.8
	29	21.0	21.0	21.2	21.0	23.2	16.4	20.2	20.2	20.3	20.2	22.1	16.0	19.3	19.3	19.3	19.3	20.9	15.6
	32	22.2	22.2	22.3	22.3	23.3	20.2	21.3	21.3	21.4	21.4	22.2	19.8	20.4	20.4	20.5	20.5	21.0	19.4
Airflow m <sup>3</sup> /hr	Ent DB (°C)	Ambient Temperature (°C)						Ambient Temperature (°C)											
		46						52											
		Entering Wet Bulb (°C)						Entering Wet Bulb (°C)											
		16		19		23		16		19		23							
		kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC						
3058	24	15.4	14.1	17.1	10.7	19.2	7.1	14.4	13.7	16.1	10.2	18.0	6.7						
	27	15.9	15.9	17.1	13.5	19.0	10.0	15.1	15.1	16.0	13.1	17.8	9.6						
	29	16.8	16.8	17.1	16.3	19.0	12.9	16.0	16.0	16.2	15.6	17.8	12.4						
	32	17.8	17.8	17.8	17.8	19.0	15.7	16.9	16.9	16.9	16.9	17.8	15.3						
3398	24	15.7	15.0	17.4	11.2	19.4	7.2	14.8	14.3	16.3	10.8	18.2	6.8						
	27	16.4	16.4	17.4	14.3	19.3	10.5	15.6	15.6	16.3	13.9	18.1	10.0						
	29	17.4	17.4	17.6	17.1	19.3	13.6	16.5	16.5	16.6	16.5	18.1	13.2						
	32	18.4	18.4	18.4	18.4	19.3	16.8	17.5	17.5	17.5	17.5	18.1	16.4						
3738	24	16.0	15.6	17.6	11.7	19.7	7.4	15.1	15.0	16.5	11.3	18.4	7.0						
	27	16.9	16.9	17.6	15.2	19.5	10.9	16.0	16.0	16.5	14.7	18.3	10.5						
	29	17.9	17.9	18.0	18.0	19.5	14.4	17.0	17.0	17.0	17.0	18.3	14.0						
	32	19.0	19.0	19.0	19.0	19.6	17.9	18.0	18.0	18.0	18.0	18.3	17.5						
4078	24	16.3	16.3	17.8	12.2	19.8	7.5	15.4	15.4	16.7	11.8	18.5	7.1						
	27	17.3	17.3	17.9	16.0	19.7	11.4	16.4	16.4	16.8	15.6	18.5	10.9						
	29	18.4	18.4	18.4	18.4	19.7	15.2	17.4	17.4	17.4	17.4	18.5	14.7						
	32	19.5	19.5	19.5	19.5	19.8	19.0	18.4	18.4	18.5	18.5	18.6	18.1						

**Notes:**

1. All capacities shown are gross and have not considered indoor fan heat. To obtain net cooling, subtract indoor fan heat.
2. kW = Total Gross Capacity, SHC = Sensible Heat Capacity



**Performance Data**

**Table 13. Gross cooling capacities (MBH) TWA0764\*A condensing unit with TWE0764\*A air handler (IP)**

CFM	Ent DB (°F)	Ambient Temperature (°F)						Ambient Temperature (°F)						Ambient Temperature (°F)					
		85						95						105					
		Entering Wet Bulb (°F)						Entering Wet Bulb (°F)						Entering Wet Bulb (°F)					
		61		67		73		61		67		73		61		67		73	
		MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
2250	75	75.1	64.4	82.7	49.1	90.8	33.3	70.9	62.5	78.0	47.2	85.5	31.4	66.6	60.5	73.1	45.3	80.2	29.5
	80	76.0	76.0	82.6	61.4	90.6	45.7	72.3	72.3	77.9	59.5	85.4	43.8	68.6	68.6	73.1	57.6	80.0	42.0
	85	79.9	79.9	82.9	73.7	90.5	58.1	76.1	76.1	78.2	71.8	85.3	56.2	72.3	72.3	73.5	69.9	79.9	54.3
	90	84.0	84.0	84.0	84.0	90.5	70.4	80.0	80.0	80.1	80.1	85.3	68.5	75.9	75.9	76.1	76.1	80.0	66.6
2500	75	76.5	68.4	84.0	51.4	92.0	33.8	72.1	66.4	79.1	49.5	86.6	32.0	67.7	64.5	74.1	47.6	81.1	30.1
	80	78.3	78.3	83.9	65.1	91.8	47.7	74.5	74.5	79.1	63.1	86.4	45.8	70.6	70.6	74.1	61.2	80.9	43.9
	85	82.4	82.4	84.3	78.7	91.7	61.4	78.5	78.5	79.6	76.8	86.3	59.5	74.4	74.4	74.8	74.8	80.8	57.7
	90	86.6	86.6	86.7	86.7	91.8	75.1	82.5	82.5	82.6	82.6	86.5	73.2	78.2	78.2	78.3	78.3	81.1	71.3
2750	75	77.6	72.3	85.0	53.7	92.9	34.4	73.2	70.4	80.0	51.7	87.4	32.5	68.8	68.4	74.9	49.8	81.8	30.6
	80	80.4	80.4	85.0	68.7	92.8	49.6	76.4	76.4	80.0	66.7	87.3	47.7	72.3	72.3	75.0	64.8	81.7	45.8
	85	84.7	84.7	85.6	83.8	92.6	64.7	80.5	80.5	80.9	80.9	87.1	62.9	76.2	76.2	76.3	76.3	81.6	61.0
	90	88.9	88.9	89.1	89.1	92.9	79.8	84.6	84.6	84.7	84.7	87.5	77.9	80.1	80.1	80.2	80.2	82.0	76.0
3000	75	78.7	76.3	85.8	55.9	93.8	34.9	74.3	74.3	80.7	54.0	88.1	33.1	69.9	69.9	75.5	52.0	82.4	31.2
	80	82.2	82.2	85.9	72.3	93.6	51.5	78.1	78.1	80.9	70.3	88.0	49.7	73.8	73.8	75.8	68.3	82.3	47.8
	85	86.6	86.6	86.9	86.9	93.5	68.1	82.3	82.3	82.4	82.4	87.9	66.2	77.8	77.8	77.9	77.9	82.3	64.2
	90	91.0	91.0	91.1	91.1	93.8	84.4	86.4	86.4	86.5	86.5	88.3	82.5	81.7	81.7	81.8	81.8	82.8	80.6
CFM	Ent DB (°F)	Ambient Temperature (°F)						Ambient Temperature (°F)											
		115						125											
		Entering Wet Bulb (°F)						Entering Wet Bulb (°F)											
		61		67		73		61		67		73							
		MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC						
2250	75	62.2	58.5	68.2	43.4	74.6	27.6	57.6	56.5	62.9	41.3	68.8	25.6						
	80	64.7	64.7	68.2	55.6	74.5	40.1	60.5	60.5	63.0	53.6	68.7	38.1						
	85	68.2	68.2	68.7	67.9	74.4	52.5	63.8	63.8	63.9	63.9	68.6	50.5						
	90	71.7	71.7	71.8	71.8	74.6	64.7	67.1	67.1	67.1	67.1	68.8	62.7						
2500	75	63.3	62.5	69.0	45.6	75.4	28.2	58.7	58.7	63.6	43.6	69.4	26.2						
	80	66.5	66.5	69.1	59.2	75.3	42.0	62.1	62.1	63.8	57.1	69.3	40.0						
	85	70.1	70.1	70.2	70.2	75.2	55.8	65.5	65.5	65.6	65.6	69.3	53.7						
	90	73.7	73.7	73.8	73.8	75.5	69.4	68.8	68.8	68.9	68.9	69.7	67.3						
2750	75	64.3	64.3	69.7	47.8	76.0	28.7	60.0	60.0	64.2	45.8	69.9	26.7						
	80	68.1	68.1	69.9	62.8	75.9	43.9	63.5	63.5	64.5	60.7	69.8	41.9						
	85	71.7	71.7	71.8	71.8	75.9	59.0	66.9	66.9	67.0	67.0	69.8	56.9						
	90	75.4	75.4	75.4	75.4	76.3	74.0	70.2	70.2	70.3	70.3	70.5	70.5						
3000	75	65.6	65.6	70.2	50.1	76.5	29.2	61.1	61.1	64.6	48.0	70.3	27.2						
	80	69.4	69.4	70.6	66.3	76.4	45.8	64.6	64.6	65.2	64.2	70.2	43.9						
	85	73.1	73.1	73.2	73.2	76.5	62.2	68.1	68.1	68.2	68.2	70.3	60.2						
	90	76.8	76.8	76.9	76.9	77.2	77.2	71.4	71.4	71.5	71.5	71.6	71.6						

**Notes:**

1. All capacities shown are gross and have not considered indoor fan heat. To obtain net cooling, subtract indoor fan heat.
2. MBH = Total Gross Capacity, SHC = Sensible Heat Capacity

**Table 14. Gross cooling capacities (kW) TWA0764\*A condensing unit with TWE0764\*A air handler (SI)**

Airflow m <sup>3</sup> /hr	Ent DB (°C)	Ambient Temperature (°C)						Ambient Temperature (°C)						Ambient Temperature (°C)					
		29						35						41					
		Entering Wet Bulb (°C)						Entering Wet Bulb (°C)						Entering Wet Bulb (°C)					
		16		19		23		16		19		23		16		19		23	
		kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC
3823	24	22.0	18.9	24.2	14.4	26.6	9.7	20.8	18.3	22.9	13.8	25.1	9.2	19.5	17.7	21.4	13.3	23.5	8.7
	27	22.3	22.3	24.2	18.0	26.6	13.4	21.2	21.2	22.8	17.4	25.0	12.8	20.1	20.1	21.4	16.9	23.5	12.3
	29	23.4	23.4	24.3	21.6	26.5	17.0	22.3	22.3	22.9	21.0	25.0	16.5	21.2	21.2	21.5	20.5	23.4	15.9
	32	24.6	24.6	24.6	24.6	26.5	20.6	23.4	23.4	23.5	23.5	25.0	20.1	22.3	22.3	22.3	22.3	23.5	19.5
4248	24	22.4	20.0	24.6	15.1	27.0	9.9	21.1	19.5	23.2	14.5	25.4	9.4	19.8	18.9	21.7	13.9	23.8	8.8
	27	22.9	22.9	24.6	19.1	26.9	14.0	21.8	21.8	23.2	18.5	25.3	13.4	20.7	20.7	21.7	17.9	23.7	12.9
	29	24.2	24.2	24.7	23.1	26.9	18.0	23.0	23.0	23.3	22.5	25.3	17.4	21.8	21.8	21.9	21.9	23.7	16.9
	32	25.4	25.4	25.4	25.4	26.9	22.0	24.2	24.2	24.2	24.2	25.3	21.5	22.9	22.9	22.9	22.9	23.8	20.9
4672	24	22.8	21.2	24.9	15.7	27.2	10.1	21.5	20.6	23.4	15.2	25.6	9.5	20.2	20.0	21.9	14.6	24.0	9.0
	27	23.6	23.6	24.9	20.1	27.2	14.5	22.4	22.4	23.5	19.6	25.6	14.0	21.2	21.2	22.0	19.0	23.9	13.4
	29	24.8	24.8	25.1	24.5	27.2	19.0	23.6	23.6	23.7	23.7	25.5	18.4	22.3	22.3	22.4	22.4	23.9	17.9
	32	26.1	26.1	26.1	26.1	27.2	23.4	24.8	24.8	24.8	24.8	25.6	22.8	23.5	23.5	23.5	23.5	24.0	22.3
5097	24	23.1	22.4	25.2	16.4	27.5	10.2	21.8	21.8	23.7	15.8	25.8	9.7	20.5	20.5	22.1	15.2	24.2	9.1
	27	24.1	24.1	25.2	21.2	27.4	15.1	22.9	22.9	23.7	20.6	25.8	14.6	21.6	21.6	22.2	20.0	24.1	14.0
	29	25.4	25.4	25.5	25.5	27.4	19.9	24.1	24.1	24.1	24.1	25.8	19.4	22.8	22.8	22.8	22.8	24.1	18.8
	32	26.7	26.7	26.7	26.7	27.5	24.7	25.3	25.3	25.4	25.4	25.9	24.2	24.0	24.0	24.0	24.0	24.3	23.6
Airflow m <sup>3</sup> /hr	Ent DB (°C)	Ambient Temperature (°C)						Ambient Temperature (°C)											
		46						52											
		Entering Wet Bulb (°C)						Entering Wet Bulb (°C)											
		16		19		23		16		19		23							
		kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC						
3823	24	18.2	17.2	20.0	12.7	21.9	8.1	16.9	16.6	18.4	12.1	20.2	7.5						
	27	19.0	19.0	20.0	16.3	21.8	11.7	17.7	17.7	18.5	15.7	20.1	11.2						
	29	20.0	20.0	20.1	19.9	21.8	15.4	18.7	18.7	18.7	18.7	20.1	14.8						
	32	21.0	21.0	21.0	21.0	21.9	19.0	19.7	19.7	19.7	19.7	20.2	18.4						
4248	24	18.5	18.3	20.2	13.4	22.1	8.3	17.2	17.2	18.6	12.8	20.3	7.7						
	27	19.5	19.5	20.3	17.4	22.1	12.3	18.2	18.2	18.7	16.7	20.3	11.7						
	29	20.5	20.5	20.6	20.6	22.0	16.3	19.2	19.2	19.2	19.2	20.3	15.7						
	32	21.6	21.6	21.6	21.6	22.1	20.3	20.2	20.2	20.2	20.2	20.4	19.7						
4672	24	18.9	18.9	20.4	14.0	22.3	8.4	17.6	17.6	18.8	13.4	20.5	7.8						
	27	19.9	19.9	20.5	18.4	22.2	12.9	18.6	18.6	18.9	17.8	20.5	12.3						
	29	21.0	21.0	21.1	21.1	22.2	17.3	19.6	19.6	19.6	19.6	20.5	16.7						
	32	22.1	22.1	22.1	22.1	22.4	21.7	20.6	20.6	20.6	20.6	20.7	20.7						
5097	24	19.2	19.2	20.6	14.7	22.4	8.6	17.9	17.9	18.9	14.1	20.6	8.0						
	27	20.3	20.3	20.7	19.4	22.4	13.4	18.9	18.9	19.1	18.8	20.6	12.9						
	29	21.4	21.4	21.5	21.5	22.4	18.2	20.0	20.0	20.0	20.0	20.6	17.6						
	32	22.5	22.5	22.5	22.5	22.6	22.6	20.9	20.9	21.0	21.0	21.0	21.0						

**Notes:**

1. All capacities shown are gross and have not considered indoor fan heat. To obtain net cooling, subtract indoor fan heat.
2. kW = Total Gross Capacity, SHC = Sensible Heat Capacity



**Performance Data**

**Table 15. Gross cooling capacities (MBH) TWA0764\*D condensing unit with TWE0764\*B air handler (IP)**

CFM	Ent DB (°F)	Ambient Temperature (°F)						Ambient Temperature (°F)						Ambient Temperature (°F)					
		85						95						105					
		Entering Wet Bulb (°F)						Entering Wet Bulb (°F)						Entering Wet Bulb (°F)					
		61		67		73		61		67		73		61		67		73	
		MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
2250	75	74.8	64.4	83.7	49.5	93.2	34.2	71.9	63.0	80.3	48.2	89.3	32.8	68.8	61.6	76.7	46.7	85.2	31.4
	80	75.6	75.1	82.9	61.6	92.5	46.4	72.9	72.9	79.6	60.2	88.6	45.0	70.3	70.3	76.1	58.9	84.6	43.6
	85	79.4	79.4	82.8	73.7	91.9	58.6	76.8	76.8	79.5	72.4	87.9	57.2	74.1	74.1	76.0	71.0	83.9	55.8
	90	83.7	83.7	83.7	83.7	91.4	70.8	80.8	80.8	80.9	80.9	87.4	69.4	77.9	77.9	78.0	78.0	83.4	68.0
2500	75	76.4	68.5	85.1	51.9	94.5	34.8	73.4	67.1	81.5	50.5	90.7	33.4	70.1	65.7	77.9	49.1	86.5	32.0
	80	78.0	78.0	84.4	65.3	93.9	48.4	75.4	75.4	81.0	64.0	90.0	47.1	72.6	72.6	77.4	62.6	85.8	45.6
	85	82.3	82.3	84.5	78.9	93.3	62.0	79.5	79.5	81.1	77.6	89.1	60.6	76.5	76.5	77.5	76.0	85.1	59.2
	90	86.6	86.6	86.8	86.8	92.9	75.6	83.6	83.6	83.8	83.8	88.7	74.1	80.5	80.5	80.7	80.7	84.8	72.7
2750	75	77.7	72.5	86.3	54.2	95.7	35.4	74.6	71.1	82.6	52.8	91.8	34.0	71.4	69.7	78.9	51.4	87.5	32.6
	80	80.3	80.3	85.7	69.0	95.1	50.4	77.6	77.6	82.2	67.7	91.1	49.1	74.7	74.7	78.5	66.2	86.8	47.6
	85	84.8	84.8	86.0	84.1	94.4	65.4	81.9	81.9	82.6	81.8	90.2	63.9	78.7	78.7	79.1	78.6	86.1	62.6
	90	89.3	89.3	89.4	89.4	94.0	80.2	86.0	86.0	86.2	86.2	89.9	78.8	82.8	82.8	83.0	83.0	85.9	77.5
3000	75	79.0	76.5	87.3	56.5	96.7	36.0	75.8	74.9	83.6	55.1	92.7	34.6	72.6	71.7	79.7	53.7	88.1	33.1
	80	82.4	82.4	86.8	72.7	96.1	52.4	79.5	79.5	83.2	71.3	92.0	51.0	76.5	76.5	79.4	69.9	87.6	49.6
	85	87.0	87.0	87.5	87.5	95.5	68.8	83.9	83.9	84.2	84.2	91.0	67.2	80.6	80.6	80.8	80.8	87.0	65.9
	90	91.6	91.6	91.7	91.7	95.1	85.0	88.3	88.3	88.4	88.4	90.9	83.6	84.9	84.9	85.0	85.0	86.9	82.2
CFM	Ent DB (°F)	Ambient Temperature (°F)						Ambient Temperature (°F)											
		115						125											
		Entering Wet Bulb (°F)						Entering Wet Bulb (°F)											
		61		67		73		61		67		73							
		MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC						
2250	75	65.5	60.2	73.0	45.3	81.1	29.9	62.1	58.7	69.1	43.8	76.7	28.4						
	80	67.5	67.5	72.4	57.4	80.2	42.1	64.5	64.5	68.5	55.9	76.0	40.6						
	85	71.1	71.1	72.4	69.6	79.7	54.3	68.0	68.0	68.7	66.5	75.3	52.8						
	90	74.8	74.8	74.9	74.9	79.3	66.5	71.5	71.5	71.6	71.6	74.8	64.9						
2500	75	66.8	64.2	74.0	47.6	82.2	30.5	63.4	61.3	70.0	46.1	77.6	29.0						
	80	69.7	69.7	73.6	61.1	81.4	44.1	66.5	66.5	69.6	59.5	76.9	42.6						
	85	73.5	73.5	73.8	73.8	80.7	57.7	70.1	70.1	70.3	70.3	76.1	56.1						
	90	77.2	77.2	77.3	77.3	80.4	71.2	73.6	73.6	73.7	73.7	75.9	69.7						
2750	75	68.0	66.5	74.9	49.9	82.8	31.0	64.7	64.3	70.8	48.3	78.4	29.6						
	80	71.6	71.6	74.6	64.7	82.3	46.1	68.3	68.3	70.5	63.2	77.6	44.6						
	85	75.5	75.5	75.6	75.6	81.6	61.1	72.0	72.0	72.1	72.1	76.9	59.5						
	90	79.3	79.3	79.5	79.5	81.5	76.0	75.6	75.6	75.7	75.7	76.9	74.1						
3000	75	69.3	69.3	75.7	52.1	83.7	31.7	66.0	66.0	71.5	50.6	79.1	30.1						
	80	73.2	73.2	75.4	68.4	83.0	48.1	69.8	69.8	71.3	66.8	78.3	46.5						
	85	77.1	77.1	77.2	77.2	82.4	64.4	73.5	73.5	73.7	73.7	77.6	62.8						
	90	81.2	81.2	81.3	81.3	82.5	80.3	77.1	77.1	77.4	77.4	78.0	76.1						

**Notes:**

1. All capacities shown are gross and have not considered indoor fan heat. To obtain net cooling, subtract indoor fan heat.
2. MBH = Total Gross Capacity, SHC = Sensible Heat Capacity



**Table 16. Gross cooling capacities (kW) TWA0764\*D condensing unit with TWE0764\*B air handler (SI)**

Airflow m <sup>3</sup> /hr	Ent DB (°C)	Ambient Temperature (°C)						Ambient Temperature (°C)						Ambient Temperature (°C)					
		29						35						41					
		Entering Wet Bulb (°C)						Entering Wet Bulb (°C)						Entering Wet Bulb (°C)					
		16		19		23		16		19		23		16		19		23	
		kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC
3823	24	21.9	18.9	24.5	14.5	27.3	10.0	21.1	18.5	23.5	14.1	26.2	9.6	20.2	18.1	22.5	13.7	25.0	9.2
	27	22.1	22.0	24.3	18.0	27.1	13.6	21.4	21.4	23.3	17.7	26.0	13.2	20.6	20.6	22.3	17.2	24.8	12.8
	29	23.3	23.3	24.3	21.6	26.9	17.2	22.5	22.5	23.3	21.2	25.8	16.8	21.7	21.7	22.3	20.8	24.6	16.4
	32	24.5	24.5	24.5	24.5	26.8	20.7	23.7	23.7	23.7	23.7	25.6	20.3	22.8	22.8	22.9	22.9	24.5	19.9
4248	24	22.4	20.1	24.9	15.2	27.7	10.2	21.5	19.7	23.9	14.8	26.6	9.8	20.6	19.2	22.8	14.4	25.3	9.4
	27	22.9	22.9	24.7	19.1	27.5	14.2	22.1	22.1	23.7	18.7	26.4	13.8	21.3	21.3	22.7	18.3	25.1	13.4
	29	24.1	24.1	24.8	23.1	27.3	18.2	23.3	23.3	23.8	22.7	26.1	17.7	22.4	22.4	22.7	22.3	24.9	17.3
	32	25.4	25.4	25.4	25.4	27.2	22.1	24.5	24.5	24.5	24.5	26.0	21.7	23.6	23.6	23.6	23.6	24.8	21.3
4672	24	22.8	21.2	25.3	15.9	28.0	10.4	21.9	20.8	24.2	15.5	26.9	10.0	20.9	20.4	23.1	15.1	25.6	9.6
	27	23.5	23.5	25.1	20.2	27.9	14.8	22.7	22.7	24.1	19.8	26.7	14.4	21.9	21.9	23.0	19.4	25.4	14.0
	29	24.8	24.8	25.2	24.6	27.7	19.2	24.0	24.0	24.2	24.0	26.4	18.7	23.1	23.1	23.2	23.0	25.2	18.3
	32	26.2	26.2	26.2	26.2	27.5	23.5	25.2	25.2	25.3	25.3	26.3	23.1	24.3	24.3	24.3	24.3	25.2	22.7
5097	24	23.1	22.4	25.6	16.6	28.3	10.5	22.2	22.0	24.5	16.1	27.2	10.2	21.3	21.0	23.4	15.7	25.8	9.7
	27	24.1	24.1	25.4	21.3	28.2	15.4	23.3	23.3	24.4	20.9	27.0	15.0	22.4	22.4	23.3	20.5	25.7	14.5
	29	25.5	25.5	25.6	25.6	28.0	20.2	24.6	24.6	24.7	24.7	26.7	19.7	23.6	23.6	23.7	23.7	25.5	19.3
	32	26.9	26.9	26.9	26.9	27.9	24.9	25.9	25.9	25.9	25.9	26.6	24.5	24.9	24.9	24.9	24.9	25.5	24.1
Airflow m <sup>3</sup> /hr	Ent DB (°C)	Ambient Temperature (°C)						Ambient Temperature (°C)											
		46						52											
		Entering Wet Bulb (°C)						Entering Wet Bulb (°C)											
		16		19		23		16		19		23							
		kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC						
3823	24	19.2	17.6	21.4	13.3	23.8	8.8	18.2	17.2	20.2	12.8	22.5	8.3						
	27	19.8	19.8	21.2	16.8	23.5	12.3	18.9	18.9	20.1	16.4	22.3	11.9						
	29	20.9	20.9	21.2	20.4	23.4	15.9	19.9	19.9	20.1	19.5	22.1	15.5						
	32	21.9	21.9	21.9	21.9	23.2	19.5	21.0	21.0	21.0	21.0	21.9	19.0						
4248	24	19.6	18.8	21.7	13.9	24.1	8.9	18.6	18.0	20.5	13.5	22.8	8.5						
	27	20.4	20.4	21.6	17.9	23.9	12.9	19.5	19.5	20.4	17.4	22.5	12.5						
	29	21.5	21.5	21.6	21.6	23.7	16.9	20.6	20.6	20.6	20.6	22.3	16.5						
	32	22.6	22.6	22.7	22.7	23.6	20.9	21.6	21.6	21.6	21.6	22.2	20.4						
4672	24	19.9	19.5	22.0	14.6	24.3	9.1	19.0	18.8	20.8	14.2	23.0	8.7						
	27	21.0	21.0	21.8	19.0	24.1	13.5	20.0	20.0	20.7	18.5	22.8	13.1						
	29	22.1	22.1	22.2	22.2	23.9	17.9	21.1	21.1	21.1	21.1	22.5	17.4						
	32	23.3	23.3	23.3	23.3	23.9	22.3	22.1	22.1	22.2	22.2	22.5	21.7						
5097	24	20.3	20.3	22.2	15.3	24.5	9.3	19.3	19.3	20.9	14.8	23.2	8.8						
	27	21.5	21.5	22.1	20.0	24.3	14.1	20.5	20.5	20.9	19.6	22.9	13.6						
	29	22.6	22.6	22.6	22.6	24.2	18.9	21.5	21.5	21.6	21.6	22.7	18.4						
	32	23.8	23.8	23.8	23.8	24.2	23.5	22.6	22.6	22.7	22.7	22.9	22.3						

**Notes:**

1. All capacities shown are gross and have not considered indoor fan heat. To obtain net cooling, subtract indoor fan heat.
2. kW = Total Gross Capacity, SHC = Sensible Heat Capacity



**Performance Data**

**Table 17. Gross cooling capacities (MBH) TWA1014\*A condensing unit with TWE1014\*A air handler (IP)**

CFM	Ent DB (°F)	Ambient Temperature (°F)						Ambient Temperature (°F)						Ambient Temperature (°F)					
		85						95						105					
		Entering Wet Bulb (°F)						Entering Wet Bulb (°F)						Entering Wet Bulb (°F)					
		61		67		73		61		67		73		61		67		73	
		MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
3000	75	99.7	85.5	111.3	65.9	124.1	45.5	95.3	83.5	106.3	63.8	118.4	43.4	90.6	81.3	100.9	61.7	112.4	41.3
	80	100.8	100.8	111.0	82.1	123.7	61.9	96.7	96.7	106.0	80.1	118.0	59.9	92.7	92.7	100.6	77.9	112.0	57.8
	85	106.0	106.0	111.1	98.2	123.4	78.3	102.2	102.2	106.2	96.2	117.7	76.3	98.1	98.1	100.9	94.0	111.7	74.1
	90	112.4	112.4	112.4	112.4	123.1	94.5	107.8	107.8	108.0	108.0	117.5	92.5	103.5	103.5	103.7	103.7	111.5	90.3
3333	75	101.7	90.8	113.2	69.0	126.1	46.4	97.2	88.8	108.0	67.0	120.2	44.3	92.3	86.6	102.5	64.8	114.0	42.2
	80	103.9	103.9	113.0	87.0	125.7	64.6	100.0	100.0	107.8	84.9	119.9	62.6	95.8	95.8	102.3	82.7	113.6	60.5
	85	109.8	109.8	113.3	105.0	125.4	82.9	105.7	105.7	108.3	102.9	119.5	80.8	101.4	101.4	102.9	100.8	113.3	78.7
	90	115.9	115.9	116.1	116.1	125.2	100.8	111.6	111.6	111.8	111.8	119.4	98.8	107.0	107.0	107.2	107.2	113.3	96.6
3667	75	103.5	96.1	114.9	72.1	127.7	47.2	98.8	94.0	109.5	70.0	121.7	45.1	93.9	91.8	103.8	67.8	115.3	43.0
	80	106.9	106.9	114.6	91.8	127.4	67.3	102.8	102.8	109.3	89.7	121.4	65.3	98.4	98.4	103.7	87.5	115.0	63.1
	85	113.1	113.1	115.3	111.7	127.0	87.4	108.8	108.8	110.2	109.7	121.0	85.3	104.2	104.2	104.8	104.8	114.7	83.0
	90	119.4	119.4	119.6	119.6	127.0	107.1	115.0	115.0	115.1	115.1	121.1	105.0	110.1	110.1	110.3	110.3	114.9	102.8
4000	75	105.0	101.4	116.2	75.2	129.2	48.0	100.3	99.3	110.7	73.1	123.0	46.0	95.3	95.3	104.9	70.9	116.5	43.8
	80	109.6	109.6	116.1	96.6	128.8	70.0	105.3	105.3	110.7	94.5	122.6	67.9	100.7	100.7	104.9	92.3	116.1	65.8
	85	116.0	116.0	117.2	117.2	128.5	91.8	111.6	111.6	112.0	112.0	122.4	89.6	106.8	106.8	106.9	106.9	115.9	87.4
	90	122.6	122.6	122.8	122.8	128.6	113.3	117.9	117.9	118.1	118.1	122.6	111.2	112.9	112.9	113.0	113.0	116.3	109.0
CFM	Ent DB (°F)	Ambient Temperature (°F)						Ambient Temperature (°F)											
		115						125											
		Entering Wet Bulb (°F)						Entering Wet Bulb (°F)											
		61		67		73		61		67		73							
		MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC						
3000	75	85.6	79.0	95.1	59.4	105.9	39.1	80.2	76.6	88.9	57.0	98.9	36.7						
	80	88.4	88.4	94.9	75.6	105.6	55.5	83.7	83.7	88.7	73.1	98.5	53.1						
	85	93.6	93.6	95.4	91.7	105.2	71.9	88.6	88.6	89.4	89.3	98.2	69.5						
	90	98.8	98.8	99.0	99.0	105.2	88.0	93.6	93.6	93.8	93.8	98.3	85.6						
3333	75	87.2	84.3	96.5	62.5	107.4	39.9	81.7	81.7	90.1	60.0	100.1	37.5						
	80	91.2	91.2	96.4	80.4	107.0	58.2	86.2	86.2	90.1	77.8	99.8	55.8						
	85	96.6	96.6	97.3	97.3	106.6	76.4	91.3	91.3	91.5	91.5	99.5	73.8						
	90	102.1	102.1	102.2	102.2	106.8	94.3	96.5	96.5	96.7	96.7	99.8	91.8						
3667	75	88.7	88.7	97.7	65.5	108.5	40.7	83.2	83.2	91.1	63.1	101.1	38.2						
	80	93.6	93.6	97.7	85.1	108.2	60.8	88.4	88.4	91.3	82.6	100.8	58.4						
	85	99.2	99.2	99.4	99.4	107.9	80.7	93.7	93.7	93.8	93.8	100.6	78.1						
	90	104.9	104.9	105.1	105.1	108.2	100.5	99.1	99.1	99.2	99.2	101.1	98.0						
4000	75	90.1	90.1	98.7	68.5	109.6	41.5	84.9	84.9	91.9	66.0	102.0	39.0						
	80	95.8	95.8	98.8	89.9	109.2	63.5	90.3	90.3	92.3	87.3	101.6	61.0						
	85	101.5	101.5	101.7	101.7	109.0	85.0	95.8	95.8	95.9	95.9	101.5	82.5						
	90	107.4	107.4	107.5	107.5	109.5	106.7	101.3	101.3	101.4	101.4	102.3	102.3						

**Notes:**

1. All capacities shown are gross and have not considered indoor fan heat. To obtain net cooling, subtract indoor fan heat.
2. MBH = Total Gross Capacity, SHC = Sensible Heat Capacity

**Table 18. Gross cooling capacities (kW) TWA1014\*A condensing unit with TWE1014\*A air handler (SI)**

Airflow m <sup>3</sup> /hr	Ent DB (°C)	Ambient Temperature (°C)						Ambient Temperature (°C)						Ambient Temperature (°C)					
		29						35						41					
		Entering Wet Bulb (°C)						Entering Wet Bulb (°C)						Entering Wet Bulb (°C)					
		16		19		23		16		19		23		16		19		23	
		kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC
5097	24	29.2	25.1	32.6	19.3	36.4	13.3	27.9	24.5	31.1	18.7	34.7	12.7	26.6	23.8	29.6	18.1	32.9	12.1
	27	29.5	29.5	32.5	24.1	36.3	18.1	28.3	28.3	31.1	23.5	34.6	17.6	27.2	27.2	29.5	22.8	32.8	16.9
	29	31.1	31.1	32.6	28.8	36.2	22.9	30.0	30.0	31.1	28.2	34.5	22.4	28.7	28.7	29.6	27.6	32.7	21.7
	32	32.9	32.9	32.9	32.9	36.1	27.7	31.6	31.6	31.7	31.7	34.4	27.1	30.3	30.3	30.4	30.4	32.7	26.5
5663	24	29.8	26.6	33.2	20.2	36.9	13.6	28.5	26.0	31.7	19.6	35.2	13.0	27.1	25.4	30.0	19.0	33.4	12.4
	27	30.4	30.4	33.1	25.5	36.8	18.9	29.3	29.3	31.6	24.9	35.1	18.3	28.1	28.1	30.0	24.2	33.3	17.7
	29	32.2	32.2	33.2	30.8	36.7	24.3	31.0	31.0	31.7	30.2	35.0	23.7	29.7	29.7	30.2	29.5	33.2	23.1
	32	34.0	34.0	34.0	34.0	36.7	29.5	32.7	32.7	32.8	32.8	35.0	28.9	31.4	31.4	31.4	31.4	33.2	28.3
6230	24	30.3	28.2	33.7	21.1	37.4	13.8	29.0	27.6	32.1	20.5	35.7	13.2	27.5	26.9	30.4	19.9	33.8	12.6
	27	31.3	31.3	33.6	26.9	37.3	19.7	30.1	30.1	32.0	26.3	35.6	19.1	28.8	28.8	30.4	25.6	33.7	18.5
	29	33.1	33.1	33.8	32.7	37.2	25.6	31.9	31.9	32.3	32.1	35.5	25.0	30.5	30.5	30.7	30.7	33.6	24.3
	32	35.0	35.0	35.1	35.1	37.2	31.4	33.7	33.7	33.7	33.7	35.5	30.8	32.3	32.3	32.3	32.3	33.7	30.1
6796	24	30.8	29.7	34.1	22.0	37.9	14.1	29.4	29.1	32.5	21.4	36.1	13.5	27.9	27.9	30.7	20.8	34.1	12.8
	27	32.1	32.1	34.0	28.3	37.7	20.5	30.9	30.9	32.4	27.7	35.9	19.9	29.5	29.5	30.8	27.0	34.0	19.3
	29	34.0	34.0	34.3	34.3	37.6	26.9	32.7	32.7	32.8	32.8	35.9	26.3	31.3	31.3	31.3	31.3	34.0	25.6
	32	35.9	35.9	36.0	36.0	37.7	33.2	34.6	34.6	34.6	34.6	35.9	32.6	33.1	33.1	33.1	33.1	34.1	32.0
Airflow m <sup>3</sup> /hr	Ent DB (°C)	Ambient Temperature (°C)						Ambient Temperature (°C)											
		46						52											
		Entering Wet Bulb (°C)						Entering Wet Bulb (°C)											
		16		19		23		16		19		23							
		kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC
5097	24	25.1	23.2	27.9	17.4	31.0	11.5	23.5	22.4	26.1	16.7	29.0	10.7						
	27	25.9	25.9	27.8	22.1	30.9	16.3	24.5	24.5	26.0	21.4	28.9	15.6						
	29	27.4	27.4	27.9	26.9	30.8	21.1	26.0	26.0	26.2	26.2	28.8	20.4						
	32	29.0	29.0	29.0	29.0	30.8	25.8	27.4	27.4	27.5	27.5	28.8	25.1						
5663	24	25.5	24.7	28.3	18.3	31.5	11.7	23.9	23.9	26.4	17.6	29.3	11.0						
	27	26.7	26.7	28.3	23.5	31.4	17.1	25.3	25.3	26.4	22.8	29.2	16.3						
	29	28.3	28.3	28.5	28.5	31.3	22.4	26.8	26.8	26.8	26.8	29.2	21.6						
	32	29.9	29.9	30.0	30.0	31.3	27.6	28.3	28.3	28.3	28.3	29.2	26.9						
6230	24	26.0	26.0	28.6	19.2	31.8	11.9	24.4	24.4	26.7	18.5	29.6	11.2						
	27	27.4	27.4	28.6	24.9	31.7	17.8	25.9	25.9	26.7	24.2	29.5	17.1						
	29	29.1	29.1	29.1	29.1	31.6	23.6	27.5	27.5	27.5	27.5	29.5	22.9						
	32	30.7	30.7	30.8	30.8	31.7	29.4	29.0	29.0	29.1	29.1	29.6	28.7						
6796	24	26.4	26.4	28.9	20.1	32.1	12.2	24.9	24.9	26.9	19.4	29.9	11.4						
	27	28.1	28.1	29.0	26.3	32.0	18.6	26.5	26.5	27.0	25.6	29.8	17.9						
	29	29.8	29.8	29.8	29.8	31.9	24.9	28.1	28.1	28.1	28.1	29.7	24.2						
	32	31.5	31.5	31.5	31.5	32.1	31.3	29.7	29.7	29.7	29.7	30.0	30.0						

**Notes:**

1. All capacities shown are gross and have not considered indoor fan heat. To obtain net cooling, subtract indoor fan heat.
2. kW = Total Gross Capacity, SHC = Sensible Heat Capacity



**Performance Data**

**Table 19. Gross cooling capacities (MBH) TWA1014\*D condensing unit with TWE1014\*B air handler (IP)**

CFM	Ent DB (°F)	Ambient Temperature (°F)						Ambient Temperature (°F)						Ambient Temperature (°F)					
		85						95						105					
		Entering Wet Bulb (°F)						Entering Wet Bulb (°F)						Entering Wet Bulb (°F)					
		61		67		73		61		67		73		61		67		73	
		MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
3000	75	97.2	84.6	108.5	65.0	121.0	44.4	92.5	82.5	103.2	62.8	115.0	42.3	87.7	80.3	97.6	60.7	108.8	40.1
	80	98.6	98.2	108.3	81.3	120.6	61.0	94.4	94.4	103.0	79.1	114.6	58.9	90.3	90.3	97.5	76.9	108.4	56.7
	85	104.0	104.0	108.5	97.5	120.3	77.6	99.9	99.9	103.3	95.4	114.3	75.4	95.6	95.6	97.9	93.2	108.2	73.3
	90	110.3	110.3	110.3	110.3	120.2	93.8	105.5	105.5	105.7	105.7	114.2	91.7	101.0	101.0	101.2	101.2	108.1	89.5
3333	75	99.1	90.0	110.4	68.1	122.8	45.3	94.3	87.8	104.9	66.0	116.6	43.1	89.3	85.6	99.1	63.8	110.3	41.0
	80	101.7	101.7	110.2	86.2	122.5	63.8	97.6	97.6	104.7	84.0	116.3	61.6	93.2	93.2	99.0	81.7	109.9	59.4
	85	107.6	107.6	110.6	104.3	122.2	82.1	103.3	103.3	105.3	102.2	116.0	79.9	98.8	98.8	99.8	99.0	109.7	77.7
	90	113.6	113.6	113.8	113.8	122.1	100.1	109.1	109.1	109.3	109.3	116.1	98.0	104.4	104.4	104.5	104.5	109.8	95.7
3667	75	100.8	95.3	111.9	71.3	124.4	46.1	95.9	93.1	106.2	69.1	118.0	44.0	90.8	90.1	100.3	66.8	111.5	41.8
	80	104.6	104.6	111.8	91.0	124.1	66.5	100.3	100.3	106.2	88.8	117.7	64.3	95.7	95.7	100.4	86.5	111.2	62.1
	85	110.8	110.8	112.6	111.1	123.8	86.6	106.2	106.2	107.2	107.0	117.5	84.3	101.5	101.5	101.9	101.9	111.0	82.1
	90	117.0	117.0	117.2	117.2	123.9	106.4	112.3	112.3	112.4	112.4	117.6	104.2	107.3	107.3	107.4	107.4	111.3	102.0
4000	75	102.4	100.6	113.2	74.3	125.7	47.0	97.4	97.2	107.4	72.1	119.2	44.8	92.4	92.3	101.4	69.7	112.5	42.6
	80	107.2	107.2	113.1	95.8	125.4	69.1	102.7	102.7	107.4	93.6	118.9	67.0	97.9	97.9	101.6	91.3	112.2	64.8
	85	113.6	113.6	114.4	114.4	125.2	91.0	108.8	108.8	108.4	108.4	118.7	88.7	103.9	103.9	104.0	104.0	112.1	86.4
	90	120.0	120.0	120.2	120.2	125.4	112.7	115.0	115.0	115.2	115.2	119.0	110.5	109.8	109.8	110.0	110.0	112.6	108.2
CFM	Ent DB (°F)	Ambient Temperature (°F)						Ambient Temperature (°F)											
		115						125											
		Entering Wet Bulb (°F)						Entering Wet Bulb (°F)											
		61		67		73		61		67		73							
		MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC						
3000	75	82.6	77.9	91.9	58.4	102.3	37.9	77.3	75.6	85.7	56.0	95.5	35.6						
	80	85.9	85.9	91.7	74.6	102.0	54.5	81.2	81.2	85.7	72.1	95.1	52.2						
	85	91.1	91.1	92.4	90.8	101.8	71.0	86.2	86.2	86.8	85.5	95.0	68.6						
	90	96.3	96.3	96.4	96.4	101.8	87.2	91.1	91.1	91.3	91.3	95.1	84.8						
3333	75	84.2	83.0	93.2	61.5	103.6	38.7	78.9	78.0	86.9	59.0	96.6	36.4						
	80	88.6	88.6	93.2	79.4	103.3	57.2	83.6	83.6	87.0	76.9	96.3	54.9						
	85	93.9	93.9	94.5	93.9	103.1	75.4	88.8	88.8	88.9	88.9	96.2	72.9						
	90	99.4	99.4	99.5	99.5	103.3	93.4	93.9	93.9	94.1	94.1	96.5	91.0						
3667	75	85.8	85.3	94.3	64.4	104.7	39.5	80.5	80.5	87.9	61.9	97.5	37.2						
	80	90.9	90.9	94.4	84.2	104.4	59.9	85.7	85.7	88.1	81.7	97.2	57.5						
	85	96.4	96.4	96.6	96.6	104.3	79.7	91.0	91.0	91.1	91.1	97.2	77.2						
	90	102.0	102.0	102.2	102.2	104.7	99.7	96.3	96.3	96.4	96.4	97.8	96.3						
4000	75	87.3	87.3	95.2	67.3	105.6	40.3	82.2	82.2	88.7	64.8	98.3	38.0						
	80	92.9	92.9	95.5	88.9	105.3	62.5	87.6	87.6	89.1	86.4	98.0	60.0						
	85	98.6	98.6	98.7	98.7	105.3	84.0	93.0	93.0	93.1	93.1	98.0	81.6						
	90	104.3	104.3	104.5	104.5	105.9	104.7	98.4	98.4	98.5	98.5	99.2	98.5						

**Notes:**

1. All capacities shown are gross and have not considered indoor fan heat. To obtain net cooling, subtract indoor fan heat.
2. MBH = Total Gross Capacity, SHC = Sensible Heat Capacity

**Table 20. Gross cooling capacities (kW) TWA1014\*D condensing unit with TWE1014\*B air handler (SI)**

Airflow m <sup>3</sup> /hr	Ent DB (°C)	Ambient Temperature (°C)						Ambient Temperature (°C)						Ambient Temperature (°C)					
		29						35						41					
		Entering Wet Bulb (°C)						Entering Wet Bulb (°C)						Entering Wet Bulb (°C)					
		16		19		23		16		19		23		16		19		23	
		kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC
5097	24	28.5	24.8	31.8	19.0	35.4	13.0	27.1	24.2	30.2	18.4	33.7	12.4	25.7	23.5	28.6	17.8	31.9	11.8
	27	28.9	28.8	31.7	23.8	35.4	17.9	27.7	27.7	30.2	23.2	33.6	17.3	26.5	26.5	28.6	22.5	31.8	16.6
	29	30.5	30.5	31.8	28.6	35.3	22.7	29.3	29.3	30.3	28.0	33.5	22.1	28.0	28.0	28.7	27.3	31.7	21.5
	32	32.3	32.3	32.3	32.3	35.2	27.5	30.9	30.9	31.0	31.0	33.5	26.9	29.6	29.6	29.7	29.7	31.7	26.2
5663	24	29.1	26.4	32.3	20.0	36.0	13.3	27.6	25.7	30.7	19.3	34.2	12.6	26.2	25.1	29.0	18.7	32.3	12.0
	27	29.8	29.8	32.3	25.3	35.9	18.7	28.6	28.6	30.7	24.6	34.1	18.1	27.3	27.3	29.0	23.9	32.2	17.4
	29	31.5	31.5	32.4	30.6	35.8	24.1	30.3	30.3	30.9	29.9	34.0	23.4	28.9	28.9	29.3	29.0	32.2	22.8
	32	33.3	33.3	33.4	33.4	35.8	29.3	32.0	32.0	32.0	32.0	34.0	28.7	30.6	30.6	30.6	30.6	32.2	28.1
6230	24	29.5	27.9	32.8	20.9	36.5	13.5	28.1	27.3	31.1	20.2	34.6	12.9	26.6	26.4	29.4	19.6	32.7	12.2
	27	30.7	30.7	32.8	26.7	36.4	19.5	29.4	29.4	31.1	26.0	34.5	18.8	28.1	28.1	29.4	25.4	32.6	18.2
	29	32.5	32.5	33.0	32.6	36.3	25.4	31.1	31.1	31.4	31.4	34.4	24.7	29.7	29.7	29.9	29.9	32.5	24.0
	32	34.3	34.3	34.3	34.3	36.3	31.2	32.9	32.9	32.9	32.9	34.5	30.5	31.4	31.4	31.5	31.5	32.6	29.9
6796	24	30.0	29.5	33.2	21.8	36.8	13.8	28.5	28.5	31.5	21.1	34.9	13.1	27.1	27.1	29.7	20.4	33.0	12.5
	27	31.4	31.4	33.2	28.1	36.8	20.3	30.1	30.1	31.5	27.4	34.8	19.6	28.7	28.7	29.8	26.8	32.9	19.0
	29	33.3	33.3	33.5	33.5	36.7	26.7	31.9	31.9	31.8	31.8	34.8	26.0	30.4	30.4	30.5	30.5	32.9	25.3
	32	35.2	35.2	35.2	35.2	36.7	33.0	33.7	33.7	33.8	33.8	34.9	32.4	32.2	32.2	32.2	32.2	33.0	31.7
Airflow m <sup>3</sup> /hr	Ent DB (°C)	Ambient Temperature (°C)						Ambient Temperature (°C)											
		46						52											
		Entering Wet Bulb (°C)						Entering Wet Bulb (°C)											
		16		19		23		16		19		23							
		kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC						
5097	24	24.2	22.8	26.9	17.1	30.0	11.1	22.6	22.1	25.1	16.4	28.0	10.4						
	27	25.2	25.2	26.9	21.9	29.9	16.0	23.8	23.8	25.1	21.1	27.9	15.3						
	29	26.7	26.7	27.1	26.6	29.8	20.8	25.3	25.3	25.4	25.1	27.8	20.1						
	32	28.2	28.2	28.3	28.3	29.8	25.6	26.7	26.7	26.8	26.8	27.9	24.9						
5663	24	24.7	24.3	27.3	18.0	30.4	11.4	23.1	22.9	25.5	17.3	28.3	10.7						
	27	26.0	26.0	27.3	23.3	30.3	16.8	24.5	24.5	25.5	22.5	28.2	16.1						
	29	27.5	27.5	27.7	27.5	30.2	22.1	26.0	26.0	26.0	26.0	28.2	21.4						
	32	29.1	29.1	29.2	29.2	30.3	27.4	27.5	27.5	27.6	27.6	28.3	26.7						
6230	24	25.1	25.0	27.6	18.9	30.7	11.6	23.6	23.6	25.8	18.1	28.6	10.9						
	27	26.6	26.6	27.7	24.7	30.6	17.5	25.1	25.1	25.8	23.9	28.5	16.8						
	29	28.3	28.3	28.3	28.3	30.6	23.4	26.7	26.7	26.7	26.7	28.5	22.6						
	32	29.9	29.9	29.9	29.9	30.7	29.2	28.2	28.2	28.3	28.3	28.7	28.2						
6796	24	25.6	25.6	27.9	19.7	31.0	11.8	24.1	24.1	26.0	19.0	28.8	11.1						
	27	27.2	27.2	28.0	26.1	30.9	18.3	25.7	25.7	26.1	25.3	28.7	17.6						
	29	28.9	28.9	28.9	28.9	30.8	24.6	27.2	27.2	27.3	27.3	28.7	23.9						
	32	30.6	30.6	30.6	30.6	31.0	30.7	28.8	28.8	28.9	28.9	29.1	28.9						

**Notes:**

1. All capacities shown are gross and have not considered indoor fan heat. To obtain net cooling, subtract indoor fan heat.
2. kW = Total Gross Capacity, SHC = Sensible Heat Capacity



**Performance Data**

**Table 21. Gross cooling capacities (MBH) TWA1564\*D condensing unit with TWE1564\*B air handler (IP)**

CFM	Ent DB (°F)	Ambient Temperature (°F)						Ambient Temperature (°F)						Ambient Temperature (°F)					
		85						95						105					
		Entering Wet Bulb (°F)						Entering Wet Bulb (°F)						Entering Wet Bulb (°F)					
		61		67		73		61		67		73		61		67		73	
		MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
4500	75	156.0	131.4	174.1	101.9	194.2	71.1	148.7	127.9	166.0	98.6	185.3	67.9	141.1	124.3	157.4	95.1	175.9	64.6
	80	157.4	153.9	173.7	126.3	193.7	95.9	150.8	149.4	165.7	122.9	184.9	92.8	143.7	143.7	157.2	119.4	175.4	89.4
	85	164.9	164.9	174.0	150.6	193.3	120.7	158.8	158.8	166.2	147.3	184.5	117.5	152.3	152.3	157.9	143.7	175.0	114.1
	90	175.8	172.3	175.8	172.3	193.0	145.1	167.7	167.7	168.8	167.9	184.3	141.8	160.9	160.9	161.3	161.3	175.1	138.4
5000	75	159.2	139.4	177.2	106.7	197.5	72.5	151.8	135.9	168.9	103.3	188.4	69.3	144.0	132.3	160.0	99.8	178.6	65.9
	80	162.1	162.1	177.0	133.7	197.0	100.1	155.4	155.4	168.8	130.3	187.9	96.9	148.7	148.7	160.0	126.7	178.2	93.5
	85	171.0	171.0	177.6	160.8	196.5	127.6	164.6	164.6	169.6	157.4	187.5	124.3	157.6	157.6	161.1	153.9	177.9	120.8
	90	180.5	180.5	180.8	180.8	196.6	154.6	173.9	173.9	174.2	174.2	187.6	151.3	166.8	166.8	167.1	167.1	178.1	147.8
5500	75	162.1	147.4	179.9	111.4	200.3	73.8	154.5	143.9	171.3	108.0	190.9	70.6	146.5	140.2	162.2	104.4	180.9	67.2
	80	166.6	166.6	179.8	141.0	199.8	104.2	160.1	160.1	171.4	137.6	190.4	101.0	153.1	153.1	162.4	133.9	180.4	97.6
	85	176.3	176.3	180.9	170.9	199.4	134.3	169.6	169.6	172.7	167.5	190.2	131.0	162.4	162.4	164.1	163.0	180.3	127.4
	90	186.2	186.2	186.6	186.6	199.6	164.1	179.3	179.3	179.6	179.6	190.5	160.7	171.9	171.9	172.2	172.2	180.8	157.2
6000	75	164.7	155.3	182.1	116.0	202.6	75.1	156.9	151.8	173.4	112.5	193.0	71.9	148.8	147.6	164.2	108.8	182.8	68.4
	80	171.0	171.0	182.2	148.3	202.1	108.3	164.2	164.2	173.6	144.8	192.6	105.0	156.9	156.9	164.5	141.1	182.4	101.6
	85	181.1	181.1	183.8	181.0	201.8	140.9	174.1	174.1	175.6	175.1	192.4	137.6	166.6	166.6	167.0	167.0	182.3	134.0
	90	191.4	191.4	191.7	191.7	202.2	173.5	184.2	184.2	184.5	184.5	193.0	170.1	176.4	176.4	176.7	176.7	183.1	166.6
CFM	Ent DB (°F)	Ambient Temperature (°F)						Ambient Temperature (°F)											
		115						125											
		Entering Wet Bulb (°F)						Entering Wet Bulb (°F)											
		61		67		73		61		67		73							
		MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC						
4500	75	133.0	120.6	148.3	91.5	165.9	61.1	124.6	116.7	138.6	87.7	155.1	57.4						
	80	137.0	137.0	148.3	115.7	165.4	85.9	129.7	129.7	138.8	111.8	154.7	82.2						
	85	145.3	145.3	149.1	140.1	165.1	110.5	137.8	137.8	139.9	136.3	154.6	106.6						
	90	153.7	153.7	154.0	154.0	165.3	134.8	146.0	146.0	146.2	146.2	154.9	131.0						
5000	75	135.7	128.5	150.7	96.1	168.3	62.4	127.1	124.5	140.8	92.1	157.2	58.6						
	80	141.6	141.6	150.8	123.0	167.9	90.0	134.0	134.0	141.1	119.0	156.8	86.2						
	85	150.3	150.3	152.2	150.2	167.7	117.1	142.4	142.4	143.3	142.2	156.8	113.2						
	90	159.2	159.2	159.4	159.4	168.1	144.2	150.9	150.9	151.2	151.2	157.5	140.3						
5500	75	138.1	136.4	152.7	100.6	170.3	63.6	129.7	128.7	142.6	96.6	159.0	59.8						
	80	145.6	145.6	153.0	130.1	169.9	94.0	137.6	137.6	143.1	126.1	158.5	90.1						
	85	154.7	154.7	155.6	155.4	169.9	123.7	146.4	146.4	146.6	146.6	158.8	119.8						
	90	163.9	163.9	164.2	164.2	170.6	153.5	155.3	155.3	155.5	155.5	159.7	149.6						
6000	75	140.6	140.0	154.5	105.0	172.0	64.8	132.1	132.1	144.2	100.9	160.4	61.0						
	80	149.2	149.2	155.0	137.3	171.5	97.9	140.9	140.9	144.9	133.2	160.1	93.9						
	85	158.5	158.5	158.8	158.8	171.7	130.3	149.9	149.9	150.1	150.1	160.4	126.3						
	90	168.1	168.1	168.4	168.4	172.8	162.9	159.1	159.1	159.3	159.3	161.8	159.0						

**Notes:**

1. All capacities shown are gross and have not considered indoor fan heat. To obtain net cooling, subtract indoor fan heat.
2. MBH = Total Gross Capacity, SHC = Sensible Heat Capacity

**Table 22. Gross cooling capacities (kW) TWA1564\*D heat pump with TWE1564\*B air handler (SI)**

Airflow m <sup>3</sup> /hr	Ent DB (°C)	Ambient Temperature (°C)						Ambient Temperature (°C)						Ambient Temperature (°C)					
		29						35						41					
		Entering Wet Bulb (°C)						Entering Wet Bulb (°C)						Entering Wet Bulb (°C)					
		16		19		23		16		19		23		16		19		23	
		kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC
7646	24	45.7	38.5	51.0	29.9	56.9	20.8	43.6	37.5	48.7	28.9	54.3	19.9	41.3	36.4	46.1	27.9	51.5	18.9
	27	46.1	45.1	50.9	37.0	56.8	28.1	44.2	43.8	48.6	36.0	54.2	27.2	42.1	42.1	46.1	35.0	51.4	26.2
	29	48.3	48.3	51.0	44.1	56.6	35.4	46.5	46.5	48.7	43.2	54.1	34.4	44.6	44.6	46.3	42.1	51.3	33.4
	32	51.5	50.5	51.5	50.5	56.6	42.5	49.1	49.1	49.5	49.2	54.0	41.6	47.2	47.2	47.3	47.3	51.3	40.6
8495	24	46.7	40.9	51.9	31.3	57.9	21.3	44.5	39.8	49.5	30.3	55.2	20.3	42.2	38.8	46.9	29.3	52.3	19.3
	27	47.5	47.5	51.9	39.2	57.7	29.3	45.5	45.5	49.5	38.2	55.1	28.4	43.6	43.6	46.9	37.1	52.2	27.4
	29	50.1	50.1	52.1	47.1	57.6	37.4	48.2	48.2	49.7	46.1	55.0	36.4	46.2	46.2	47.2	45.1	52.1	35.4
	32	52.9	52.9	53.0	53.0	57.6	45.3	51.0	51.0	51.1	51.1	55.0	44.3	48.9	48.9	49.0	49.0	52.2	43.3
9345	24	47.5	43.2	52.7	32.6	58.7	21.6	45.3	42.2	50.2	31.7	55.9	20.7	42.9	41.1	47.5	30.6	53.0	19.7
	27	48.8	48.8	52.7	41.3	58.6	30.5	46.9	46.9	50.2	40.3	55.8	29.6	44.9	44.9	47.6	39.3	52.9	28.6
	29	51.7	51.7	53.0	50.1	58.4	39.4	49.7	49.7	50.6	49.1	55.7	38.4	47.6	47.6	48.1	47.8	52.8	37.3
	32	54.6	54.6	54.7	54.7	58.5	48.1	52.6	52.6	52.6	52.6	55.8	47.1	50.4	50.4	50.5	50.5	53.0	46.1
10194	24	48.3	45.5	53.4	34.0	59.4	22.0	46.0	44.5	50.8	33.0	56.6	21.1	43.6	43.3	48.1	31.9	53.6	20.1
	27	50.1	50.1	53.4	43.4	59.2	31.7	48.1	48.1	50.9	42.4	56.4	30.8	46.0	46.0	48.2	41.4	53.4	29.8
	29	53.1	53.1	53.9	53.0	59.2	41.3	51.0	51.0	51.5	51.3	56.4	40.3	48.8	48.8	48.9	48.9	53.4	39.3
	32	56.1	56.1	56.2	56.2	59.3	50.8	54.0	54.0	54.1	54.1	56.6	49.9	51.7	51.7	51.8	51.8	53.7	48.8
Airflow m <sup>3</sup> /hr	Ent DB (°C)	Ambient Temperature (°C)						Ambient Temperature (°C)											
		46						52											
		Entering Wet Bulb (°C)						Entering Wet Bulb (°C)											
		16		19		23		16		19		23							
		kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC
7646	24	39.0	35.3	43.5	26.8	48.6	17.9	36.5	34.2	40.6	25.7	45.5	16.8						
	27	40.1	40.1	43.5	33.9	48.5	25.2	38.0	38.0	40.7	32.8	45.3	24.1						
	29	42.6	42.6	43.7	41.1	48.4	32.4	40.4	40.4	41.0	39.9	45.3	31.2						
	32	45.1	45.1	45.1	45.1	48.5	39.5	42.8	42.8	42.9	42.9	45.4	38.4						
8495	24	39.8	37.7	44.2	28.2	49.3	18.3	37.2	36.5	41.3	27.0	46.1	17.2						
	27	41.5	41.5	44.2	36.0	49.2	26.4	39.3	39.3	41.4	34.9	45.9	25.3						
	29	44.0	44.0	44.6	44.0	49.2	34.3	41.7	41.7	42.0	41.7	46.0	33.2						
	32	46.6	46.6	46.7	46.7	49.3	42.3	44.2	44.2	44.3	44.3	46.1	41.1						
9345	24	40.5	40.0	44.8	29.5	49.9	18.6	38.0	37.7	41.8	28.3	46.6	17.5						
	27	42.7	42.7	44.9	38.1	49.8	27.5	40.3	40.3	41.9	37.0	46.5	26.4						
	29	45.3	45.3	45.6	45.5	49.8	36.3	42.9	42.9	43.0	43.0	46.5	35.1						
	32	48.0	48.0	48.1	48.1	50.0	45.0	45.5	45.5	45.6	45.6	46.8	43.9						
10194	24	41.2	41.0	45.3	30.8	50.4	19.0	38.7	38.7	42.3	29.6	47.0	17.9						
	27	43.7	43.7	45.4	40.2	50.3	28.7	41.3	41.3	42.5	39.0	46.9	27.5						
	29	46.5	46.5	46.5	46.5	50.3	38.2	43.9	43.9	44.0	44.0	47.0	37.0						
	32	49.3	49.3	49.3	49.3	50.6	47.7	46.6	46.6	46.7	46.7	47.4	46.6						

**Notes:**

1. All capacities shown are gross and have not considered indoor fan heat. To obtain net cooling, subtract indoor fan heat.
2. kW = Total Gross Capacity, SHC = Sensible Heat Capacity



**Performance Data**

**Table 23. Gross cooling capacities (MBH) TWA2014\*D heat pump with TWE2014\*B air handler (IP)**

CFM	Ent DB (°F)	Ambient Temperature (°F)						Ambient Temperature (°F)						Ambient Temperature (°F)					
		85						95						105					
		Entering Wet Bulb (°F)						Entering Wet Bulb (°F)						Entering Wet Bulb (°F)					
		61		67		73		61		67		73		61		67		73	
		MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
6000	75	207.5	175.6	230.3	135.2	254.6	93.3	197.7	171.0	219.3	130.7	242.1	88.8	187.0	166.1	207.4	125.9	228.9	84.2
	80	207.3	207.3	229.9	168.0	254.1	126.5	197.4	197.4	218.8	163.5	241.6	122.0	186.7	186.7	206.9	158.8	228.4	117.4
	85	207.0	207.0	229.5	200.5	253.7	159.6	197.1	197.1	218.5	196.0	241.2	155.1	186.4	186.4	206.6	191.2	228.0	150.5
	90	235.2	233.8	235.2	233.8	253.2	192.5	196.4	196.4	218.0	218.0	240.7	188.0	185.7	185.7	206.1	206.1	227.6	183.3
6667	75	211.4	186.3	234.3	141.5	258.6	95.0	201.2	181.6	222.8	136.9	245.7	90.5	190.1	176.7	210.5	132.1	232.1	85.8
	80	211.1	211.1	233.8	178.0	258.2	132.0	200.9	200.9	222.4	173.4	245.3	127.5	189.8	189.8	210.1	168.6	231.7	122.8
	85	210.8	210.8	233.5	214.0	257.7	168.7	200.6	200.6	222.0	209.4	244.8	164.2	189.5	189.5	209.8	204.5	231.2	159.5
	90	210.0	210.0	232.9	232.9	257.2	205.3	199.8	199.8	221.5	221.5	244.4	200.7	188.7	188.7	209.3	209.3	230.8	195.9
7333	75	214.7	196.9	237.6	147.7	262.0	96.7	204.1	192.1	225.8	143.1	248.8	92.2	192.7	187.1	213.2	138.3	234.8	87.4
	80	214.4	214.4	237.1	187.8	261.6	137.4	203.8	203.8	225.3	183.2	248.3	132.8	192.4	192.4	212.8	178.2	234.3	128.1
	85	214.0	214.0	236.8	227.4	261.1	177.8	203.5	203.5	225.1	222.7	247.9	173.3	192.1	192.1	212.5	212.5	233.9	168.5
	90	213.2	213.2	236.2	236.2	260.7	217.9	202.7	202.7	224.4	224.4	247.4	213.2	191.3	191.3	211.9	211.9	233.5	208.4
8000	75	217.5	207.3	240.5	153.9	265.0	98.4	206.6	202.6	228.3	149.2	251.4	93.8	195.0	195.0	215.5	144.3	237.0	89.0
	80	217.2	217.2	240.0	197.5	264.5	142.7	206.3	206.3	227.9	192.8	250.9	138.1	194.7	194.7	215.1	187.8	236.6	133.4
	85	216.8	216.8	239.7	239.7	264.0	186.9	206.0	206.0	227.6	227.6	250.4	182.3	194.3	194.3	214.8	214.8	236.2	177.5
	90	216.0	216.0	238.9	238.9	263.6	230.4	205.1	205.1	226.9	226.9	250.1	225.7	193.5	193.5	214.1	214.1	235.8	220.9
CFM	Ent DB (°F)	Ambient Temperature (°F)						Ambient Temperature (°F)											
		115						125											
		Entering Wet Bulb (°F)						Entering Wet Bulb (°F)											
		61		67		73		61		67		73							
		MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC						
6000	75	175.4	160.9	194.5	120.8	214.6	79.2	162.5	155.2	180.2	115.3	198.7	73.8						
	80	175.1	175.1	194.1	153.7	214.1	112.4	162.3	162.3	179.8	148.0	198.3	107.0						
	85	174.8	174.8	193.8	186.0	213.7	145.5	162.0	162.0	179.6	179.6	197.9	140.1						
	90	174.1	174.1	193.3	193.3	213.3	178.3	161.3	161.3	179.0	179.0	197.5	172.7						
6667	75	178.1	171.4	197.3	127.0	217.4	80.8	164.9	164.9	182.6	121.4	201.1	75.3						
	80	177.9	177.9	196.9	163.4	216.9	117.7	164.7	164.7	182.2	157.6	200.7	112.3						
	85	177.6	177.6	196.6	196.6	216.5	154.5	164.4	164.4	182.0	182.0	200.3	149.1						
	90	176.8	176.8	196.0	196.0	216.2	190.8	163.6	163.6	181.4	181.4	200.0	185.2						
7333	75	180.5	180.5	199.6	133.1	219.7	82.4	166.9	166.9	184.6	127.5	203.0	76.9						
	80	180.2	180.2	199.2	173.0	219.3	123.0	166.6	166.6	184.3	167.2	202.6	117.5						
	85	179.9	179.9	199.0	199.0	218.9	163.5	166.3	166.3	184.0	184.0	202.3	158.0						
	90	179.1	179.1	198.4	198.4	218.6	203.2	165.5	165.5	183.4	183.4	202.0	197.6						
8000	75	182.4	182.4	201.6	139.1	221.7	84.0	168.6	168.6	186.3	133.5	204.7	78.4						
	80	182.1	182.1	201.2	182.5	221.3	128.3	168.3	168.3	186.0	176.7	204.3	122.8						
	85	181.8	181.8	201.0	201.0	220.9	172.5	168.0	168.0	185.7	185.7	204.2	166.8						
	90	181.0	181.0	200.3	200.3	220.6	215.7	167.2	167.2	185.0	185.0	203.9	203.9						

**Notes:**

1. All capacities shown are gross and have not considered indoor fan heat. To obtain net cooling, subtract indoor fan heat.
2. MBH = Total Gross Capacity, SHC = Sensible Heat Capacity



**Table 24. Gross cooling capacities (kW) TWA2014\*D heat pump with TWE2014\*B air handler (SI)**

Airflow m <sup>3</sup> /hr	Ent DB (°C)	Ambient Temperature (°C)						Ambient Temperature (°C)						Ambient Temperature (°C)					
		29						35						41					
		Entering Wet Bulb (°C)						Entering Wet Bulb (°C)						Entering Wet Bulb (°C)					
		16		19		23		16		19		23		16		19		23	
		kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC
10194	24	60.8	51.5	67.5	39.6	74.6	27.3	57.9	50.1	64.3	38.3	70.9	26.0	54.8	48.7	60.8	36.9	67.1	24.7
	27	60.7	60.7	67.4	49.2	74.5	37.1	57.9	57.9	64.1	47.9	70.8	35.8	54.7	54.7	60.6	46.5	67.0	34.4
	29	60.7	60.7	67.3	58.8	74.3	46.8	57.8	57.8	64.0	57.4	70.7	45.5	54.6	54.6	60.6	56.0	66.8	44.1
	32	68.9	68.5	68.9	68.5	74.2	56.4	57.5	57.5	63.9	63.9	70.6	55.1	54.4	54.4	60.4	60.4	66.7	53.7
11327	24	62.0	54.6	68.7	41.5	75.8	27.9	59.0	53.2	65.3	40.1	72.0	26.5	55.7	51.8	61.7	38.7	68.0	25.2
	27	61.9	61.9	68.5	52.2	75.7	38.7	58.9	58.9	65.2	50.8	71.9	37.4	55.6	55.6	61.6	49.4	67.9	36.0
	29	61.8	61.8	68.4	62.7	75.5	49.4	58.8	58.8	65.1	61.4	71.8	48.1	55.5	55.5	61.5	59.9	67.8	46.8
	32	61.6	61.6	68.3	68.3	75.4	60.2	58.6	58.6	64.9	64.9	71.6	58.8	55.3	55.3	61.3	61.3	67.6	57.4
12459	24	62.9	57.7	69.6	43.3	76.8	28.4	59.8	56.3	66.2	41.9	72.9	27.0	56.5	54.8	62.5	40.5	68.8	25.6
	27	62.8	62.8	69.5	55.0	76.7	40.3	59.7	59.7	66.0	53.7	72.8	38.9	56.4	56.4	62.4	52.2	68.7	37.5
	29	62.7	62.7	69.4	66.6	76.5	52.1	59.6	59.6	66.0	65.3	72.6	50.8	56.3	56.3	62.3	62.3	68.6	49.4
	32	62.5	62.5	69.2	69.2	76.4	63.8	59.4	59.4	65.8	65.8	72.5	62.5	56.1	56.1	62.1	62.1	68.4	61.1
13592	24	63.7	60.8	70.5	45.1	77.6	28.8	60.6	59.4	66.9	43.7	73.7	27.5	57.1	57.1	63.1	42.3	69.5	26.1
	27	63.6	63.6	70.3	57.9	77.5	41.8	60.5	60.5	66.8	56.5	73.5	40.5	57.1	57.1	63.0	55.0	69.3	39.1
	29	63.5	63.5	70.3	70.3	77.4	54.8	60.4	60.4	66.7	66.7	73.4	53.4	57.0	57.0	63.0	63.0	69.2	52.0
	32	63.3	63.3	70.0	70.0	77.3	67.5	60.1	60.1	66.5	66.5	73.3	66.2	56.7	56.7	62.8	62.8	69.1	64.7
Airflow m <sup>3</sup> /hr	Ent DB (°C)	Ambient Temperature (°C)						Ambient Temperature (°C)											
		46						52											
		Entering Wet Bulb (°C)						Entering Wet Bulb (°C)											
		16		19		23		16		19		23							
		kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC	kW	SHC						
10194	24	51.4	47.2	57.0	35.4	62.9	23.2	47.6	45.5	52.8	33.8	58.2	21.6						
	27	51.3	51.3	56.9	45.0	62.8	32.9	47.6	47.6	52.7	43.4	58.1	31.4						
	29	51.2	51.2	56.8	54.5	62.6	42.6	47.5	47.5	52.6	52.6	58.0	41.1						
	32	51.0	51.0	56.6	56.6	62.5	52.2	47.3	47.3	52.5	52.5	57.9	50.6						
11327	24	52.2	50.2	57.8	37.2	63.7	23.7	48.3	48.3	53.5	35.6	58.9	22.1						
	27	52.1	52.1	57.7	47.9	63.6	34.5	48.3	48.3	53.4	46.2	58.8	32.9						
	29	52.0	52.0	57.6	57.6	63.5	45.3	48.2	48.2	53.3	53.3	58.7	43.7						
	32	51.8	51.8	57.5	57.5	63.4	55.9	47.9	47.9	53.2	53.2	58.6	54.3						
12459	24	52.9	52.9	58.5	39.0	64.4	24.1	48.9	48.9	54.1	37.4	59.5	22.5						
	27	52.8	52.8	58.4	50.7	64.3	36.1	48.8	48.8	54.0	49.0	59.4	34.4						
	29	52.7	52.7	58.3	58.3	64.2	47.9	48.7	48.7	53.9	53.9	59.3	46.3						
	32	52.5	52.5	58.1	58.1	64.1	59.6	48.5	48.5	53.7	53.7	59.2	57.9						
13592	24	53.5	53.5	59.1	40.8	65.0	24.6	49.4	49.4	54.6	39.1	60.0	23.0						
	27	53.4	53.4	59.0	53.5	64.9	37.6	49.3	49.3	54.5	51.8	59.9	36.0						
	29	53.3	53.3	58.9	58.9	64.7	50.5	49.2	49.2	54.4	54.4	59.8	48.9						
	32	53.0	53.0	58.7	58.7	64.6	63.2	49.0	49.0	54.2	54.2	59.8	59.8						

**Notes:**

1. All capacities shown are gross and have not considered indoor fan heat. To obtain net cooling, subtract indoor fan heat.
2. kW = Total Gross Capacity, SHC = Sensible Heat Capacity



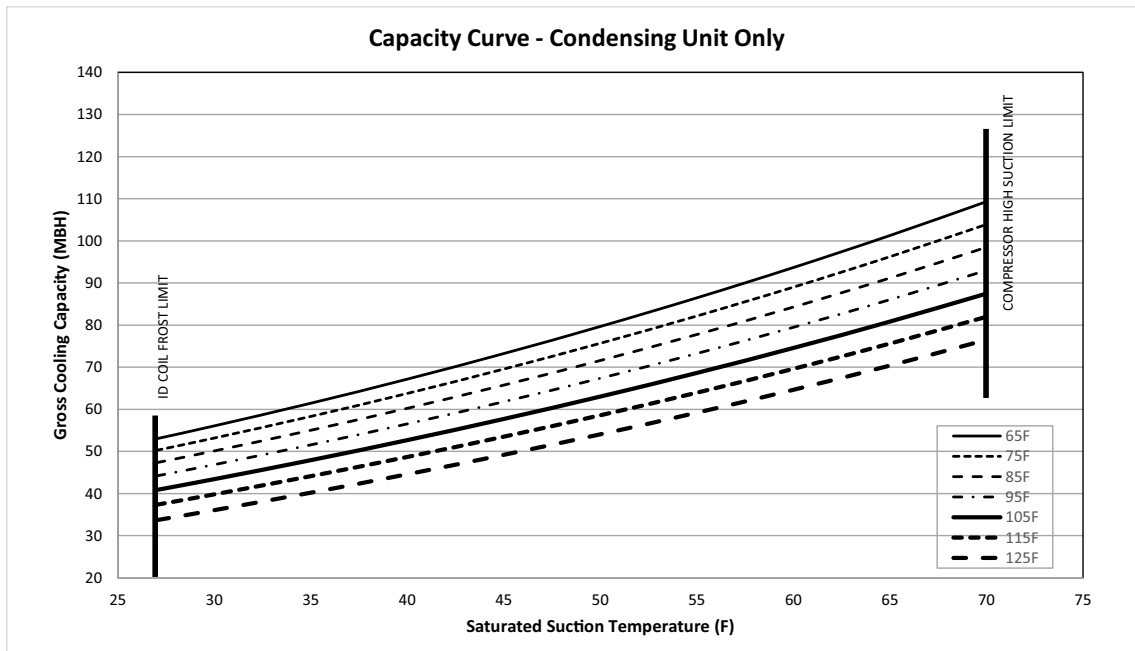
## Performance Data

**Table 25. Gross cooling capacities (MBH) TWA0604\*A condensing unit only (IP)**

Outdoor Temp (°F)		Saturation Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	259.1	265.4	271.9	278.8	285.8	293.0
	Capacity (Btuh/1000)	56.1	61.5	67.2	73.3	79.7	86.5
	Unit Power (kW)	3.3	3.4	3.4	3.5	3.6	3.7
75	Head Press (psig)	297.0	303.6	310.4	317.5	324.8	332.2
	Capacity (Btuh/1000)	53.2	58.3	63.8	69.6	75.7	82.2
	Unit Power (kW)	3.6	3.7	3.8	3.9	3.9	4.0
85	Head Press (psig)	338.3	345.2	352.3	359.6	367.1	374.7
	Capacity (Btuh/1000)	50.1	55.0	60.3	65.8	71.6	77.8
	Unit Power (kW)	4.1	4.1	4.2	4.3	4.3	4.4
95	Head Press (psig)	383.1	390.2	397.6	405.2	412.9	420.7
	Capacity (Btuh/1000)	46.9	51.6	56.6	61.8	67.4	73.3
	Unit Power (kW)	4.5	4.6	4.7	4.7	4.8	4.9
105	Head Press (psig)	431.5	439.0	446.6	454.4	462.3	470.2
	Capacity (Btuh/1000)	43.4	47.9	52.7	57.7	63.0	68.7
	Unit Power (kW)	5.0	5.1	5.2	5.2	5.3	5.4
115	Head Press (psig)	483.8	491.5	499.3	507.2	515.1	523.0
	Capacity (Btuh/1000)	39.8	44.1	48.7	53.5	58.6	64.0
	Unit Power (kW)	5.6	5.7	5.7	5.8	5.9	6.0
125	Head Press (psig)	539.8	547.5	555.3	563.1	570.8	578.3
	Capacity (Btuh/1000)	36.1	40.2	44.6	49.2	54.1	59.2
	Unit Power (kW)	6.2	6.3	6.3	6.4	6.5	6.6

Note: Performance data calculated at 15°F subcooling and 15°F superheat and does not include capacity loss due to refrigerant lines.

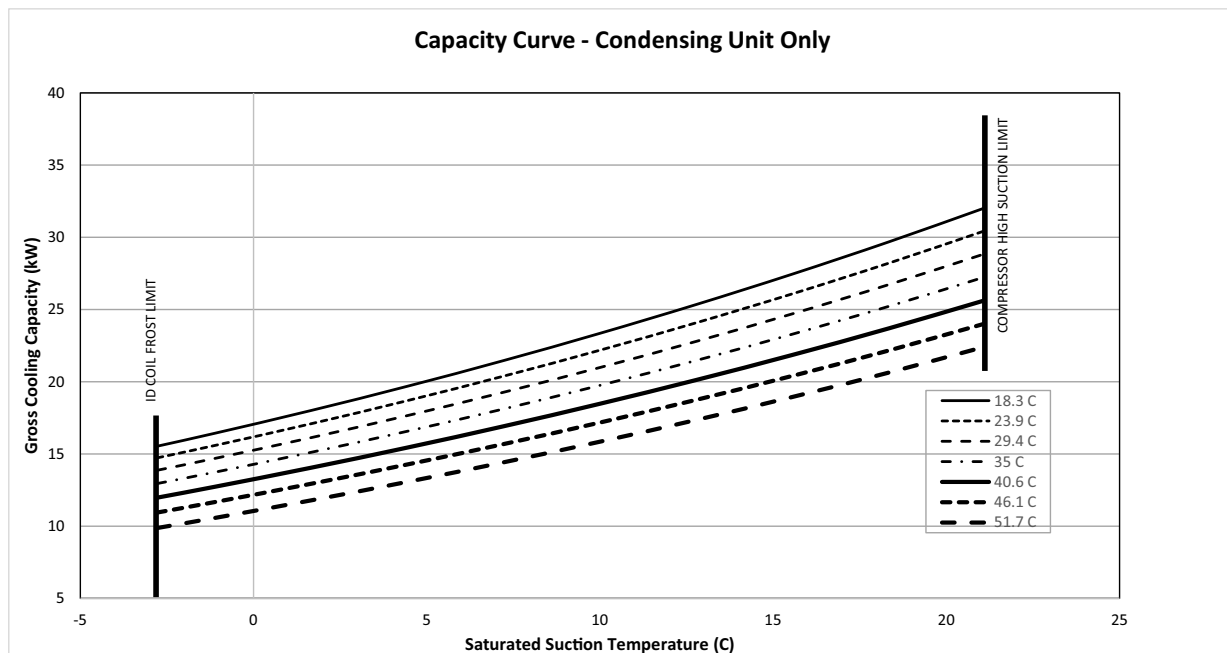
**Figure 7. TWA0604DA capacity curves (IP)**



**Table 26. Gross cooling capacities (kW) TWA0604\*A condensing unit only (SI)**

Outdoor Temp (°C)		Saturation Suction Temperature (°C)					
		-1.1	1.7	4.4	7.2	10.0	12.8
18.3	Head Press (kPa)	1786.7	1829.9	1875.0	1922.1	1970.6	2020.3
	Capacity (kW)	16.4	18.0	19.7	21.5	23.4	25.3
	Unit Power (kW)	3.3	3.4	3.4	3.5	3.6	3.7
23.9	Head Press (kPa)	2047.7	2093.0	2140.1	2189.0	2239.3	2290.5
	Capacity (kW)	15.6	17.1	18.7	20.4	22.2	24.1
	Unit Power (kW)	3.6	3.7	3.8	3.9	3.9	4.0
29.4	Head Press (kPa)	2332.4	2379.7	2428.8	2479.5	2531.2	2583.7
	Capacity (kW)	14.7	16.1	17.7	19.3	21.0	22.8
	Unit Power (kW)	4.1	4.1	4.2	4.3	4.3	4.4
35.0	Head Press (kPa)	2641.2	2690.6	2741.5	2793.8	2846.9	2900.4
	Capacity (kW)	13.7	15.1	16.6	18.1	19.7	21.5
	Unit Power (kW)	4.5	4.6	4.7	4.7	4.8	4.9
40.6	Head Press (kPa)	2975.1	3026.6	3079.4	3133.2	3187.5	3241.9
	Capacity (kW)	12.7	14.0	15.4	16.9	18.5	20.1
	Unit Power (kW)	5.0	5.1	5.2	5.2	5.3	5.4
46.1	Head Press (kPa)	3335.6	3388.7	3442.5	3497.0	3551.5	3605.9
	Capacity (kW)	11.7	12.9	14.3	15.7	17.2	18.7
	Unit Power (kW)	5.6	5.7	5.7	5.8	5.9	6.0
51.7	Head Press (kPa)	3721.8	3774.9	3828.6	3882.2	3935.4	3987.5
	Capacity (kW)	10.6	11.8	13.1	14.4	15.8	17.4
	Unit Power (kW)	6.2	6.3	6.3	6.4	6.5	6.6

Note: Performance data calculated at 8.3°C subcooling and 8.3°C superheat and does not include capacity loss due to refrigerant lines.

**Figure 8. TWA0604DA capacity curves (SI)**




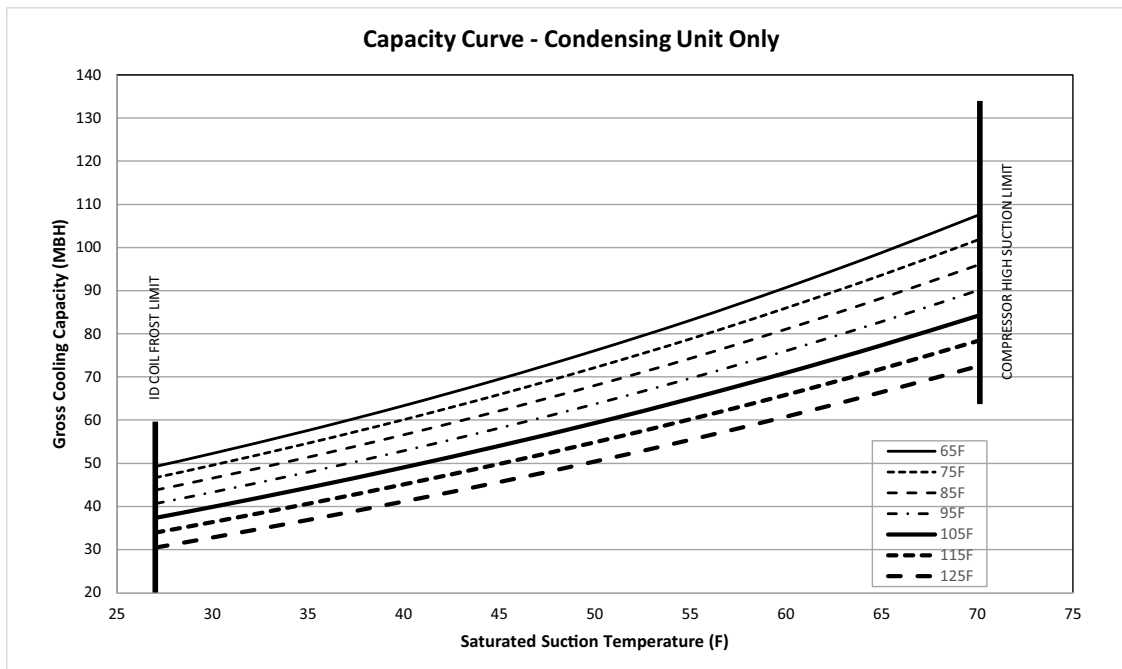
## Performance Data

**Table 27. Gross cooling capacities (kW) TWA0604\*D condensing unit only (IP)**

Outdoor Temp (°F)		Saturation Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	240.1	245.2	250.6	256.4	262.6	269.5
	Capacity (Btuh/1000)	52.3	57.6	63.3	69.5	76.1	83.1
	Unit Power (kW)	3.1	3.1	3.1	3.1	3.2	3.2
75	Head Press (psig)	276.8	282.1	287.8	293.8	300.3	307.4
	Capacity (Btuh/1000)	49.5	54.6	60.1	65.9	72.2	78.8
	Unit Power (kW)	3.5	3.5	3.5	3.5	3.6	3.6
85	Head Press (psig)	316.7	322.4	328.3	334.6	341.4	348.7
	Capacity (Btuh/1000)	46.5	51.4	56.6	62.1	68.0	74.3
	Unit Power (kW)	3.9	3.9	4.0	4.0	4.0	4.1
95	Head Press (psig)	360.3	366.2	372.4	378.9	385.9	393.0
	Capacity (Btuh/1000)	43.3	47.9	52.9	58.1	63.7	69.7
	Unit Power (kW)	4.4	4.4	4.5	4.5	4.5	4.6
105	Head Press (psig)	407.7	413.8	420.2	426.9	434.1	441.3
	Capacity (Btuh/1000)	39.9	44.3	49.0	54.0	59.3	65.0
	Unit Power (kW)	5.0	5.0	5.0	5.1	5.1	5.1
115	Head Press (psig)	459.2	465.5	472.1	478.9	486.1	493.3
	Capacity (Btuh/1000)	36.4	40.6	45.1	49.8	54.9	60.2
	Unit Power (kW)	5.6	5.6	5.6	5.7	5.7	5.8
125	Head Press (psig)	515.0	521.4	528.0	534.8	541.7	549.0
	Capacity (Btuh/1000)	32.8	36.9	41.1	45.6	50.4	55.4
	Unit Power (kW)	6.2	6.3	6.3	6.4	6.4	6.4

Note: Performance data calculated at 15°F subcooling and 15°F superheat and does not include capacity loss due to refrigerant lines.

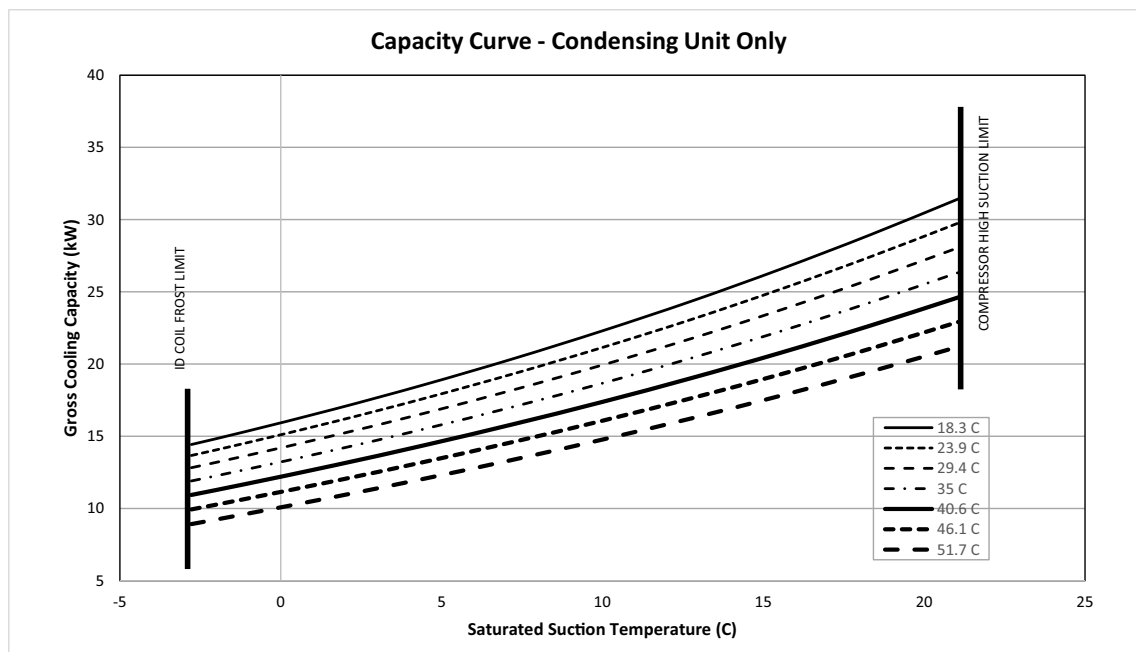
**Figure 9. TWA0604DD capacity curves (IP)**



**Table 28. Gross cooling capacities (kW) TWA0604\*D condensing unit only (SI)**

Outdoor Temp (°C)		Saturation Suction Temperature (°C)					
		-1.1	1.7	4.4	7.2	10	12.8
18.3	Head Press (kPa)	1655.7	1690.7	1728.0	1767.9	1810.5	1858.2
	Capacity (kW)	15.3	16.9	18.6	20.4	22.3	24.4
	Unit Power (kW)	3.1	3.1	3.1	3.1	3.2	3.2
23.9	Head Press (kPa)	1908.1	1945.0	1984.2	2025.7	2070.8	2119.5
	Capacity (kW)	14.5	16.0	17.6	19.3	21.2	23.1
	Unit Power (kW)	3.5	3.5	3.5	3.5	3.6	3.6
29.4	Head Press (kPa)	2183.8	2222.7	2263.7	2306.8	2353.9	2403.9
	Capacity (kW)	13.6	15.1	16.6	18.2	19.9	21.8
	Unit Power (kW)	3.9	3.9	4.0	4.0	4.0	4.1
35.0	Head Press (kPa)	2484.3	2525.1	2567.7	2612.3	2661.0	2709.6
	Capacity (kW)	12.7	14.0	15.5	17.0	18.7	20.4
	Unit Power (kW)	4.4	4.4	4.5	4.5	4.5	4.6
40.6	Head Press (kPa)	2810.8	2853.3	2897.5	2943.3	2993.3	3042.6
	Capacity (kW)	11.7	13.0	14.4	15.8	17.4	19.0
	Unit Power (kW)	5.0	5.0	5.0	5.1	5.1	5.1
46.1	Head Press (kPa)	3165.9	3209.8	3255.1	3302.0	3351.6	3401.3
	Capacity (kW)	10.7	11.9	13.2	14.6	16.1	17.6
	Unit Power (kW)	5.6	5.6	5.6	5.7	5.7	5.8
51.7	Head Press (kPa)	3550.7	3595.0	3640.5	3687.2	3734.9	3785.1
	Capacity (kW)	9.6	10.8	12.1	13.4	14.8	16.2
	Unit Power (kW)	6.2	6.3	6.3	6.4	6.4	6.4

Note: Performance data calculated at 8.3°C subcooling and 8.3°C superheat and does not include capacity loss due to refrigerant lines.

**Figure 10. TWA0604DD capacity curves (SI)**




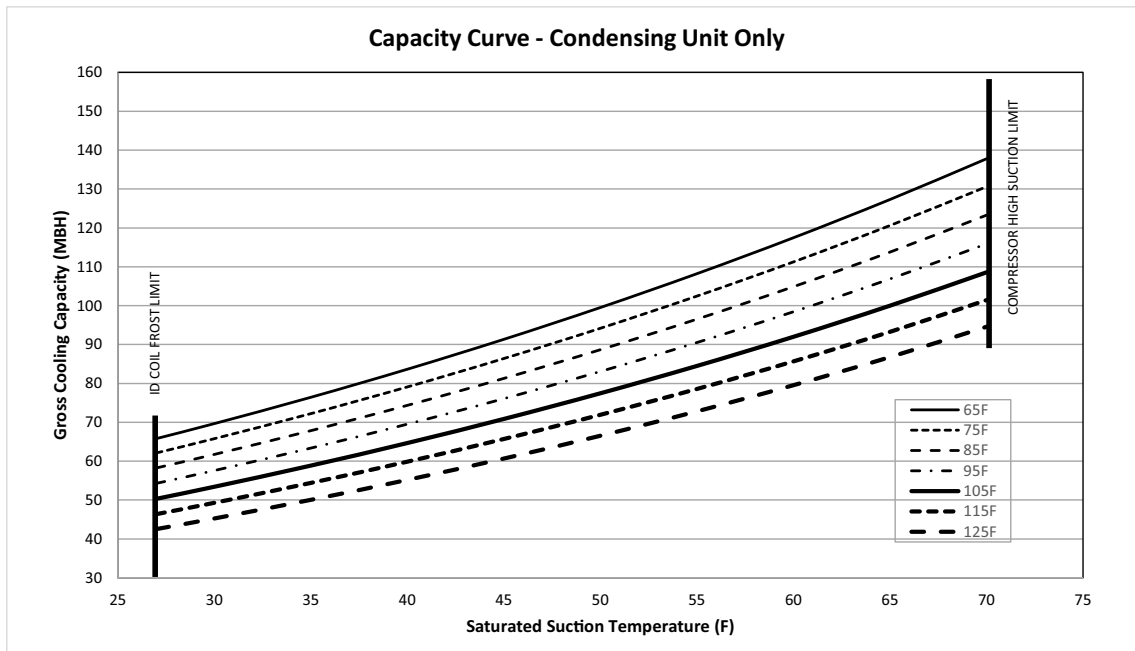
## Performance Data

**Table 29. Gross cooling capacities (MBH) TWA0764\*A condensing unit only (IP)**

Outdoor Temp (°F)		Saturation Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	263.6	270.5	277.7	285.3	293.2	301.4
	Capacity (Btuh/1000)	69.7	76.4	83.7	91.3	99.5	108.2
	Unit Power (kW)	4.2	4.2	4.3	4.4	4.5	4.6
75	Head Press (psig)	301.2	308.4	316.0	323.9	332.1	340.5
	Capacity (Btuh/1000)	65.8	72.2	79.1	86.4	94.2	102.5
	Unit Power (kW)	4.7	4.7	4.8	4.9	5.0	5.1
85	Head Press (psig)	342.2	349.7	357.5	365.6	374.0	382.7
	Capacity (Btuh/1000)	61.7	67.9	74.4	81.3	88.7	96.5
	Unit Power (kW)	5.2	5.3	5.4	5.5	5.6	5.7
95	Head Press (psig)	386.7	394.3	402.3	410.7	419.2	428.0
	Capacity (Btuh/1000)	57.6	63.4	69.5	76.1	83.1	90.5
	Unit Power (kW)	5.8	5.9	6.0	6.1	6.2	6.3
105	Head Press (psig)	434.9	442.7	450.9	459.3	467.9	476.7
	Capacity (Btuh/1000)	53.4	58.9	64.7	70.9	77.5	84.5
	Unit Power (kW)	6.5	6.6	6.7	6.8	6.9	7.0
115	Head Press (psig)	487.1	494.9	503.0	511.3	519.8	528.5
	Capacity (Btuh/1000)	49.3	54.4	59.9	65.7	71.9	78.6
	Unit Power (kW)	7.3	7.4	7.5	7.6	7.7	7.8
125	Head Press (psig)	543.1	550.6	558.4	566.3	574.4	582.4
	Capacity (Btuh/1000)	45.3	50.1	55.2	60.7	66.5	72.8
	Unit Power (kW)	8.1	8.2	8.3	8.4	8.5	8.6

Note: Performance data calculated at 15°F subcooling and 15°F superheat and does not include capacity loss due to refrigerant lines.

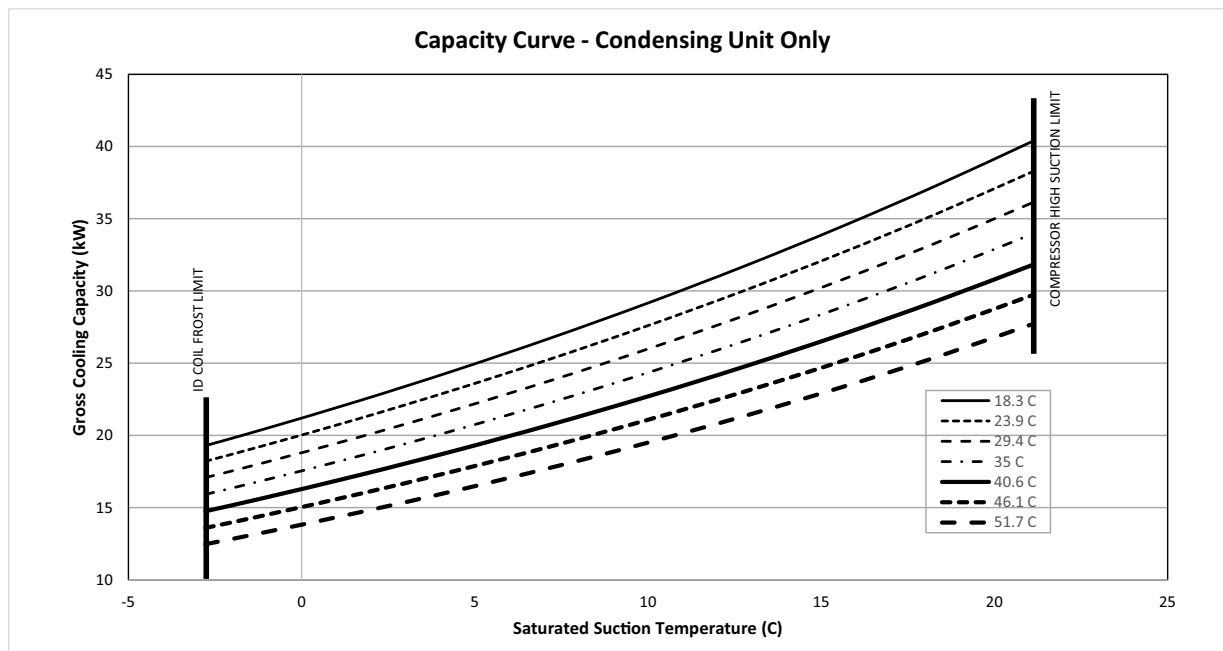
**Figure 11. TWA0764DA capacity curves (IP)**



**Table 30. Gross cooling capacities (kW) TWA0764\*A condensing unit only (SI)**

Outdoor Temp (°C)		Saturation Suction Temperature (°C)					
		-1.1	1.7	4.4	7.2	10	12.8
18.3	Head Press (kPa)	1817.3	1864.7	1914.7	1967.1	2021.7	2078.3
	Capacity (kW)	20.4	22.4	24.5	26.8	29.2	31.7
	Unit Power (kW)	4.2	4.2	4.3	4.4	4.5	4.6
23.9	Head Press (kPa)	2077.0	2126.5	2178.6	2233.0	2289.5	2347.9
	Capacity (kW)	19.3	21.2	23.2	25.3	27.6	30.0
	Unit Power (kW)	4.7	4.7	4.8	4.9	5.0	5.1
29.4	Head Press (kPa)	2359.4	2410.9	2464.8	2520.8	2578.9	2638.5
	Capacity (kW)	18.1	19.9	21.8	23.8	26.0	28.3
	Unit Power (kW)	5.2	5.3	5.4	5.5	5.6	5.7
35.0	Head Press (kPa)	2665.9	2718.9	2774.1	2831.4	2890.4	2950.9
	Capacity (kW)	16.9	18.6	20.4	22.3	24.3	26.5
	Unit Power (kW)	5.8	5.9	6.0	6.1	6.2	6.3
40.6	Head Press (kPa)	2998.2	3052.2	3108.6	3166.5	3226.2	3286.9
	Capacity (kW)	15.7	17.3	19.0	20.8	22.7	24.8
	Unit Power (kW)	6.5	6.6	6.7	6.8	6.9	7.0
46.1	Head Press (kPa)	3358.3	3412.2	3468.0	3525.4	3584.2	3643.8
	Capacity (kW)	14.4	15.9	17.5	19.3	21.1	23.0
	Unit Power (kW)	7.3	7.4	7.5	7.6	7.7	7.8
51.7	Head Press (kPa)	3744.5	3796.4	3849.9	3904.6	3960.1	4015.5
	Capacity (kW)	13.3	14.7	16.2	17.8	19.5	21.3
	Unit Power (kW)	8.1	8.2	8.3	8.4	8.5	8.6

Note: Performance data calculated at 8.3°C subcooling and 8.3°C superheat and does not include capacity loss due to refrigerant lines.

**Figure 12. TWA0764DA capacity curves (SI)**




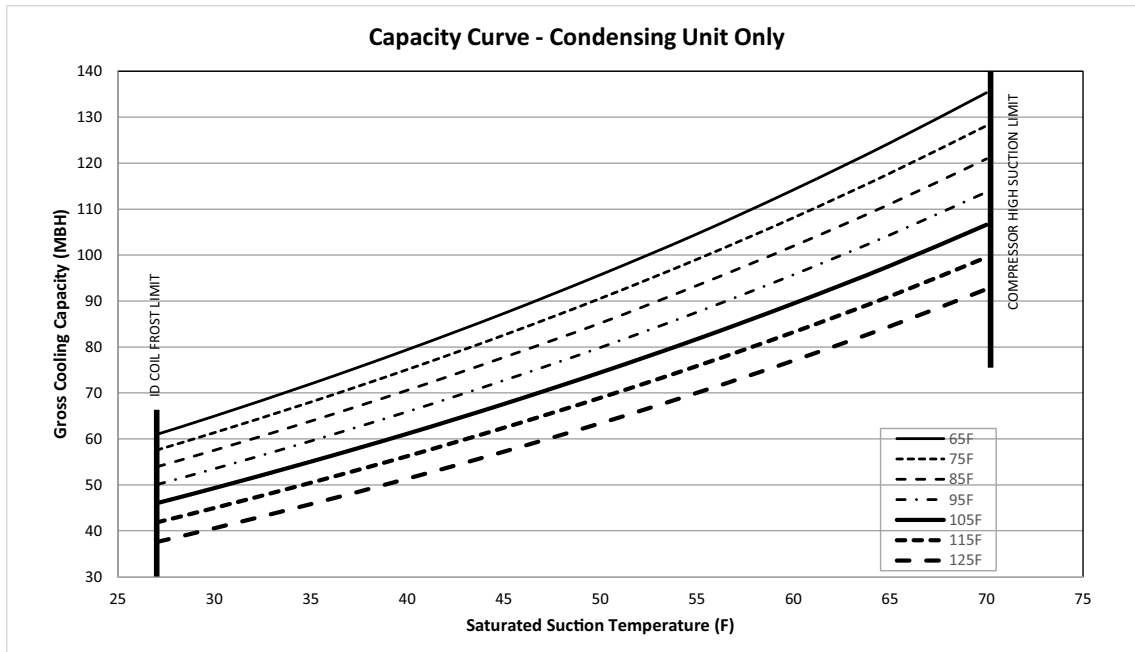
**Performance Data**

**Table 31. Gross cooling capacities (MBH) TWA0764\*D condensing unit only (IP)**

Outdoor Temp (°F)		Saturation Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	246.2	252.2	258.5	265.4	272.3	279.9
	Capacity (Btuh/1000)	65.0	72.0	79.4	87.3	95.7	104.6
	Unit Power (kW)	3.8	3.8	3.8	3.9	3.9	4.0
75	Head Press (psig)	282.9	289.1	295.8	302.9	310.1	317.4
	Capacity (Btuh/1000)	61.4	68.0	75.1	82.6	90.6	99.1
	Unit Power (kW)	4.2	4.3	4.3	4.4	4.4	4.4
85	Head Press (psig)	322.9	329.4	336.4	343.4	351.8	358.5
	Capacity (Btuh/1000)	57.5	63.9	70.6	77.7	85.2	93.4
	Unit Power (kW)	4.8	4.8	4.8	4.9	4.9	5.0
95	Head Press (psig)	366.4	373.1	380.4	387.6	395.5	403.0
	Capacity (Btuh/1000)	53.5	59.5	65.9	72.7	79.9	87.6
	Unit Power (kW)	5.4	5.4	5.5	5.5	5.5	5.6
105	Head Press (psig)	413.6	420.5	428.0	435.4	442.9	450.8
	Capacity (Btuh/1000)	49.3	55.1	61.1	67.6	74.5	81.7
	Unit Power (kW)	6.1	6.1	6.2	6.2	6.2	6.3
115	Head Press (psig)	464.7	471.7	479.3	486.6	494.1	501.9
	Capacity (Btuh/1000)	45.0	50.5	56.2	62.4	68.9	75.9
	Unit Power (kW)	6.9	6.9	7.0	7.0	7.0	7.1
125	Head Press (psig)	519.7	526.7	534.0	541.1	548.7	555.9
	Capacity (Btuh/1000)	40.6	45.8	51.3	57.2	63.4	70.0
	Unit Power (kW)	7.9	7.9	7.9	7.9	7.9	7.9

Note: Performance data calculated at 15°F subcooling and 15°F superheat and does not include capacity loss due to refrigerant lines.

**Figure 13. TWA0764DD capacity curves (IP)**

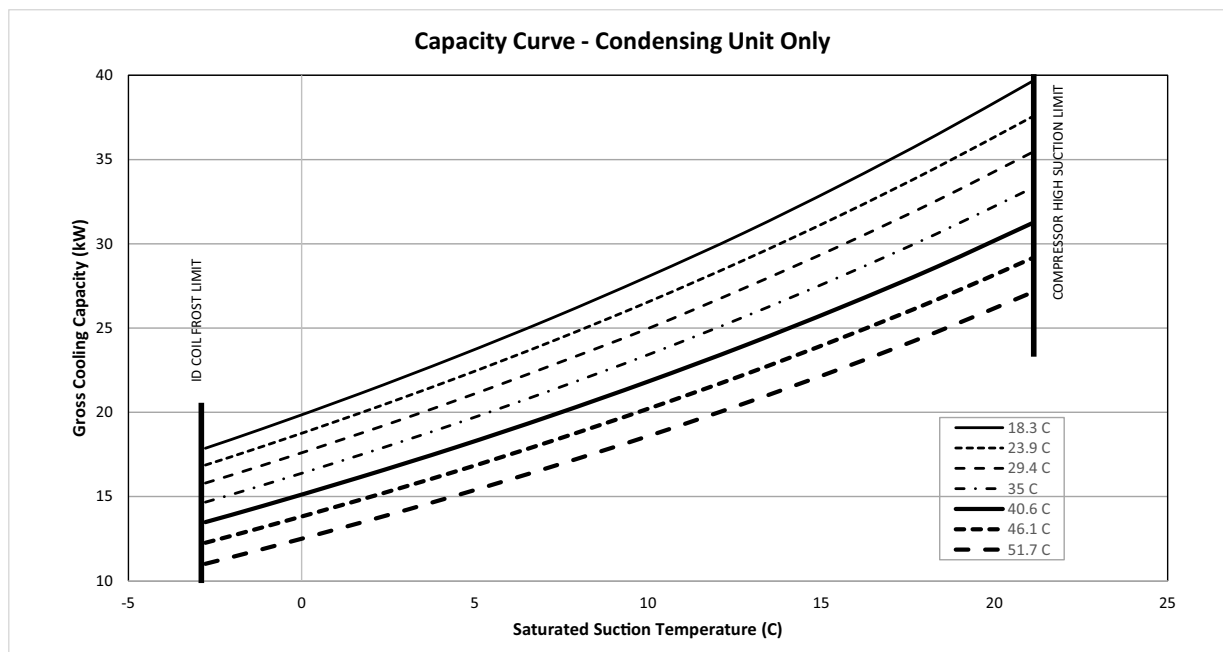




**Table 32. Gross cooling capacities (kW) TWA0764\*D condensing unit only (SI)**

Outdoor Temp (°C)		Saturation Suction Temperature (°C)					
		-1.1	1.7	4.4	7.2	10	12.8
18.3	Head Press (kPa)	1697.6	1738.7	1782.4	1829.7	1877.7	1929.9
	Capacity (kW)	19.0	21.1	23.3	25.6	28.1	30.7
	Unit Power (kW)	3.8	3.8	3.8	3.9	3.9	4.0
23.9	Head Press (kPa)	1950.3	1993.4	2039.3	2088.4	2137.9	2188.4
	Capacity (kW)	18.0	19.9	22.0	24.2	26.5	29.0
	Unit Power (kW)	4.2	4.3	4.3	4.4	4.4	4.4
29.4	Head Press (kPa)	2226.3	2271.0	2319.2	2367.5	2425.7	2472.1
	Capacity (kW)	16.9	18.7	20.7	22.8	25.0	27.4
	Unit Power (kW)	4.8	4.8	4.8	4.9	4.9	5.0
35.0	Head Press (kPa)	2526.4	2572.7	2622.9	2672.5	2727.0	2778.7
	Capacity (kW)	15.7	17.4	19.3	21.3	23.4	25.7
	Unit Power (kW)	5.4	5.4	5.5	5.5	5.5	5.6
40.6	Head Press (kPa)	2851.6	2899.3	2951.1	3001.7	3053.9	3108.4
	Capacity (kW)	14.4	16.1	17.9	19.8	21.8	23.9
	Unit Power (kW)	6.1	6.1	6.2	6.2	6.2	6.3
46.1	Head Press (kPa)	3204.0	3252.5	3304.8	3354.7	3406.9	3460.7
	Capacity (kW)	13.2	14.8	16.5	18.3	20.2	22.2
	Unit Power (kW)	6.9	6.9	7.0	7.0	7.0	7.1
51.7	Head Press (kPa)	3583.4	3631.5	3681.7	3730.9	3783.5	3832.8
	Capacity (kW)	11.9	13.4	15.0	16.8	18.6	20.5
	Unit Power (kW)	7.9	7.9	7.9	7.9	7.9	7.9

Note: Performance data calculated at 8.3°C subcooling and 8.3°C superheat and does not include capacity loss due to refrigerant lines.

**Figure 14. TWA0764DD capacity curves (SI)**




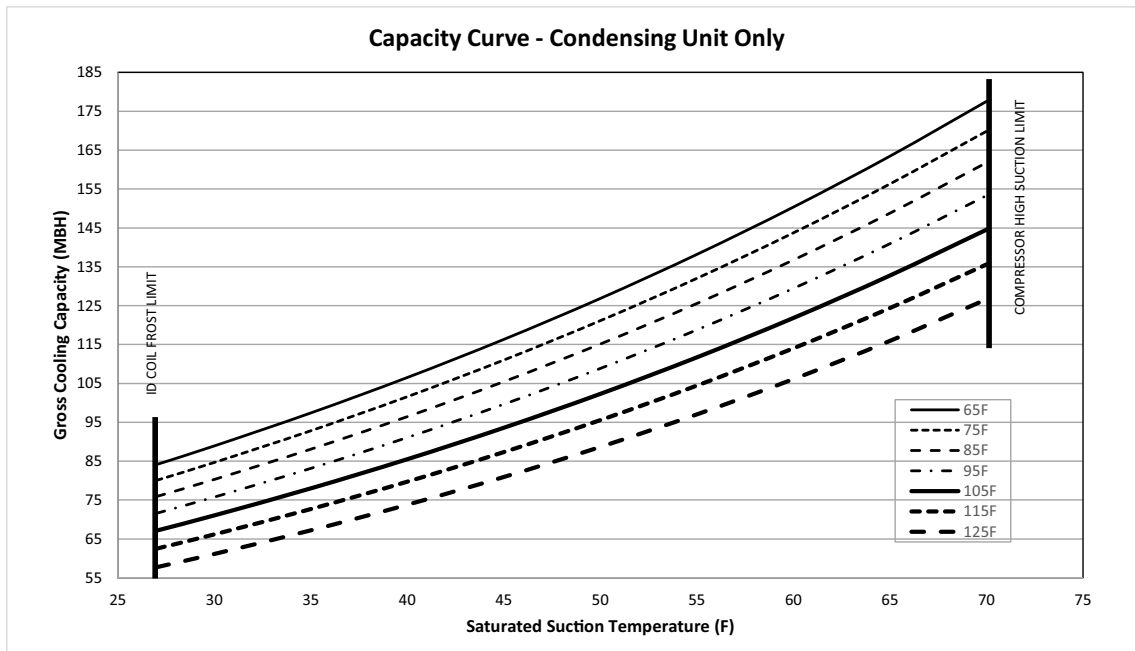
**Performance Data**

**Table 33. Gross cooling capacities (MBH) TWA1014\*A condensing unit only (IP)**

Outdoor Temp (°F)		Saturation Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	252.8	258.7	265.0	271.7	278.8	286.3
	Capacity (Btuh/1000)	88.9	97.4	106.5	116.3	126.9	138.2
	Unit Power (kW)	5.5	5.7	5.9	6.0	6.2	6.4
75	Head Press (psig)	290.1	296.3	302.8	309.8	317.1	324.8
	Capacity (Btuh/1000)	84.7	92.8	101.6	111.0	121.1	132.0
	Unit Power (kW)	6.1	6.2	6.4	6.5	6.7	6.8
85	Head Press (psig)	330.9	337.3	344.1	351.3	358.8	366.7
	Capacity (Btuh/1000)	80.3	88.1	96.5	105.5	115.2	125.6
	Unit Power (kW)	6.7	6.8	6.9	7.1	7.2	7.4
95	Head Press (psig)	375.4	382.0	389.0	396.3	404.0	412.0
	Capacity (Btuh/1000)	75.8	83.2	91.1	99.7	108.9	118.8
	Unit Power (kW)	7.3	7.5	7.6	7.8	7.9	8.0
105	Head Press (psig)	423.8	430.5	437.6	445.0	452.7	460.8
	Capacity (Btuh/1000)	71.1	78.0	85.5	93.6	102.3	111.7
	Unit Power (kW)	8.1	8.2	8.4	8.5	8.6	8.8
115	Head Press (psig)	476.2	482.9	490.0	497.3	505.0	512.9
	Capacity (Btuh/1000)	66.2	72.7	79.7	87.4	95.6	104.5
	Unit Power (kW)	8.9	9.1	9.2	9.4	9.5	9.6
125	Head Press (psig)	532.5	539.0	545.8	552.9	560.3	567.8
	Capacity (Btuh/1000)	61.1	67.2	73.8	80.9	88.7	97.0
	Unit Power (kW)	9.9	10.0	10.2	10.3	10.4	10.5

Note: Performance data calculated at 15°F subcooling and 15°F superheat and does not include capacity loss due to refrigerant lines.

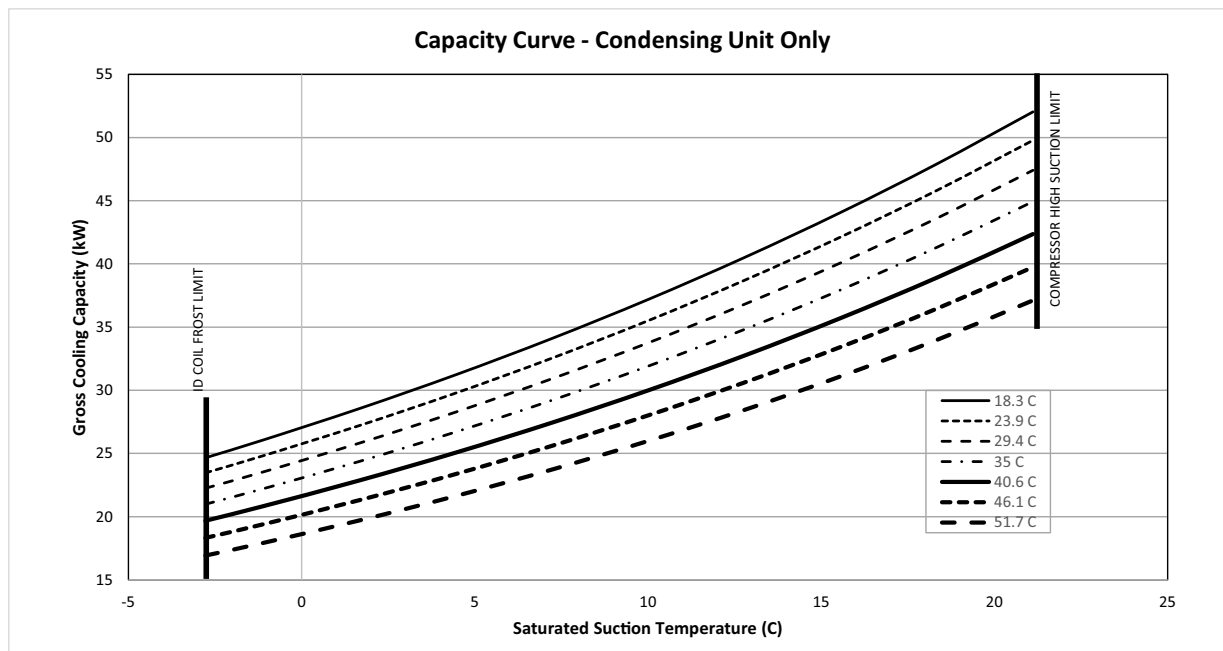
**Figure 15. TWA1014DA capacity curves (IP)**



**Table 34. Gross cooling capacities (kW) TWA1014\*A condensing unit only (SI)**

Outdoor Temp (°C)		Saturation Suction Temperature (°C)					
		-1.1	1.7	4.4	7.2	10	12.8
18.3	Head Press (kPa)	1743.3	1784.0	1827.4	1873.4	1922.2	1973.7
	Capacity (kW)	26.1	28.6	31.2	34.1	37.2	40.5
	Unit Power (kW)	5.5	5.7	5.9	6.0	6.2	6.4
23.9	Head Press (kPa)	1999.9	2042.6	2087.9	2135.8	2186.4	2239.6
	Capacity (kW)	24.8	27.2	29.8	32.5	35.5	38.7
	Unit Power (kW)	6.1	6.2	6.4	6.5	6.7	6.8
29.4	Head Press (kPa)	2281.2	2325.6	2372.5	2422.0	2474.0	2528.4
	Capacity (kW)	23.5	25.8	28.3	30.9	33.7	36.8
	Unit Power (kW)	6.7	6.8	6.9	7.1	7.2	7.4
35.0	Head Press (kPa)	2588.3	2633.8	2681.9	2732.4	2785.4	2840.5
	Capacity (kW)	22.2	24.4	26.7	29.2	31.9	34.8
	Unit Power (kW)	7.3	7.5	7.6	7.8	7.9	8.0
40.6	Head Press (kPa)	2921.7	2968.0	3016.9	3068.0	3121.6	3177.1
	Capacity (kW)	20.8	22.9	25.1	27.4	30.0	32.7
	Unit Power (kW)	8.1	8.2	8.4	8.5	8.6	8.8
46.1	Head Press (kPa)	3283.3	3329.6	3378.3	3429.0	3481.9	3536.4
	Capacity (kW)	19.4	21.3	23.4	25.6	28.0	30.6
	Unit Power (kW)	8.9	9.1	9.2	9.4	9.5	9.6
51.7	Head Press (kPa)	3671.3	3716.3	3763.3	3812.1	3862.8	3914.7
	Capacity (kW)	17.9	19.7	21.6	23.7	26.0	28.4
	Unit Power (kW)	9.9	10.0	10.2	10.3	10.4	10.5

Note: Performance data calculated at 8.3°C subcooling and 8.3°C superheat and does not include capacity loss due to refrigerant lines.

**Figure 16. TWA1014DA capacity curves (SI)**




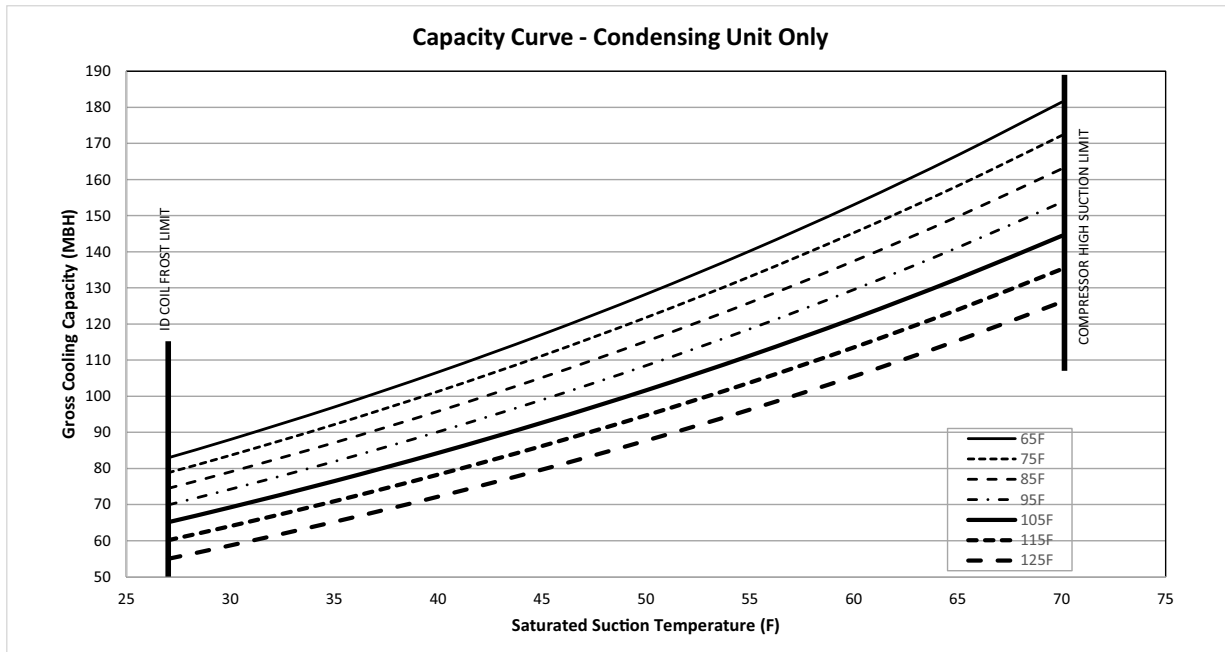
## Performance Data

**Table 35. Gross cooling capacities (MBH) TWA1014\*D condensing unit only (IP)**

Outdoor Temp (°F)		Saturation Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	246.4	252.0	258.1	264.5	271.3	278.4
	Capacity (Btuh/1000)	88.0	97.0	106.7	117.1	128.3	140.2
	Unit Power (kW)	5.1	5.2	5.2	5.4	5.5	5.6
75	Head Press (psig)	283.5	289.5	295.7	302.4	309.4	316.7
	Capacity (Btuh/1000)	83.6	92.1	101.3	111.2	121.8	133.1
	Unit Power (kW)	5.7	5.8	5.9	6.0	6.1	6.3
85	Head Press (psig)	324.2	330.4	336.9	343.8	351.0	358.5
	Capacity (Btuh/1000)	79.0	87.1	95.8	105.2	115.2	125.9
	Unit Power (kW)	6.4	6.5	6.6	6.7	6.9	7.0
95	Head Press (psig)	368.7	375.1	381.8	388.8	396.2	403.8
	Capacity (Btuh/1000)	74.2	81.9	90.1	99.0	108.5	118.6
	Unit Power (kW)	7.2	7.3	7.4	7.5	7.7	7.8
105	Head Press (psig)	417.1	423.6	430.5	437.7	445.2	452.8
	Capacity (Btuh/1000)	69.2	76.5	84.3	92.7	101.6	111.2
	Unit Power (kW)	8.1	8.2	8.3	8.5	8.6	8.7
115	Head Press (psig)	469.6	476.3	483.2	490.5	497.9	505.5
	Capacity (Btuh/1000)	64.0	70.9	78.3	86.2	94.7	103.8
	Unit Power (kW)	9.2	9.3	9.4	9.5	9.6	9.8
125	Head Press (psig)	526.3	532.9	539.8	546.8	554.0	561.4
	Capacity (Btuh/1000)	58.7	65.2	72.2	79.7	87.7	96.3
	Unit Power (kW)	10.4	10.5	10.6	10.7	10.8	10.9

Note: Performance data calculated at 15°F subcooling and 15°F superheat and does not include capacity loss due to refrigerant lines.

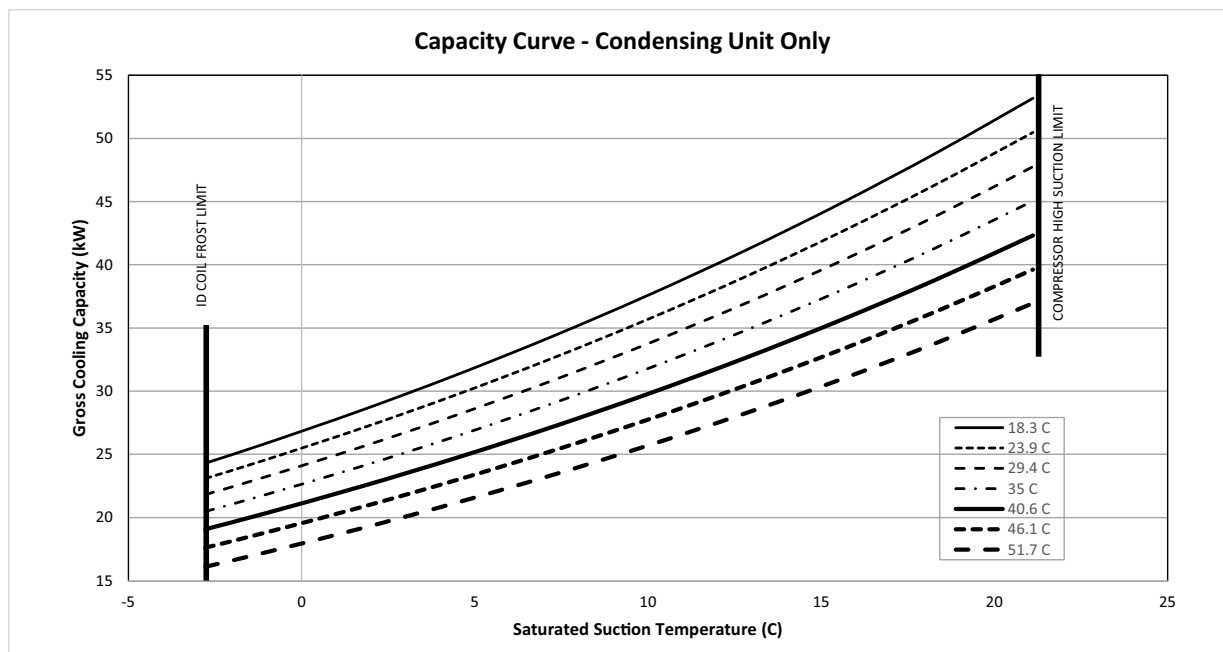
**Figure 17. TWA1014DD capacity curves (IP)**



**Table 36. Gross cooling capacities (kW) TWA1014\*D condensing unit only (SI)**

Outdoor Temp (°C)		Saturation Suction Temperature (°C)					
		-1.1	1.7	4.4	7.2	10	12.8
18.3	Head Press (kPa)	1698.6	1737.8	1779.4	1823.6	1870.3	1919.2
	Capacity (kW)	25.8	28.4	31.3	34.3	37.6	41.1
	Unit Power (kW)	5.1	5.2	5.2	5.4	5.5	5.6
23.9	Head Press (kPa)	1954.8	1995.7	2039.1	2084.9	2133.1	2183.5
	Capacity (kW)	24.5	27.0	29.7	32.6	35.7	39.0
	Unit Power (kW)	5.7	5.8	5.9	6.0	6.1	6.3
29.4	Head Press (kPa)	2235.5	2278.1	2323.1	2370.4	2420.0	2471.6
	Capacity (kW)	23.2	25.5	28.1	30.8	33.8	36.9
	Unit Power (kW)	6.4	6.5	6.6	6.7	6.9	7.0
35.0	Head Press (kPa)	2542.1	2586.2	2632.5	2681.0	2731.6	2784.1
	Capacity (kW)	21.8	24.0	26.4	29.0	31.8	34.8
	Unit Power (kW)	7.2	7.3	7.4	7.5	7.7	7.8
40.6	Head Press (kPa)	2875.5	2920.8	2968.2	3017.7	3069.2	3122.3
	Capacity (kW)	20.3	22.4	24.7	27.2	29.8	32.6
	Unit Power (kW)	8.1	8.2	8.3	8.5	8.6	8.7
46.1	Head Press (kPa)	3237.9	3283.9	3331.9	3381.7	3433.0	3485.6
	Capacity (kW)	18.8	20.8	22.9	25.3	27.8	30.4
	Unit Power (kW)	9.2	9.3	9.4	9.5	9.6	9.8
51.7	Head Press (kPa)	3628.8	3674.3	3721.5	3770.1	3819.9	3870.6
	Capacity (kW)	17.2	19.1	21.2	23.3	25.7	28.2
	Unit Power (kW)	10.4	10.5	10.6	10.7	10.8	10.9

Note: Performance data calculated at 8.3°C subcooling and 8.3°C superheat and does not include capacity loss due to refrigerant lines.

**Figure 18. TWA1014DD capacity curves (SI)**




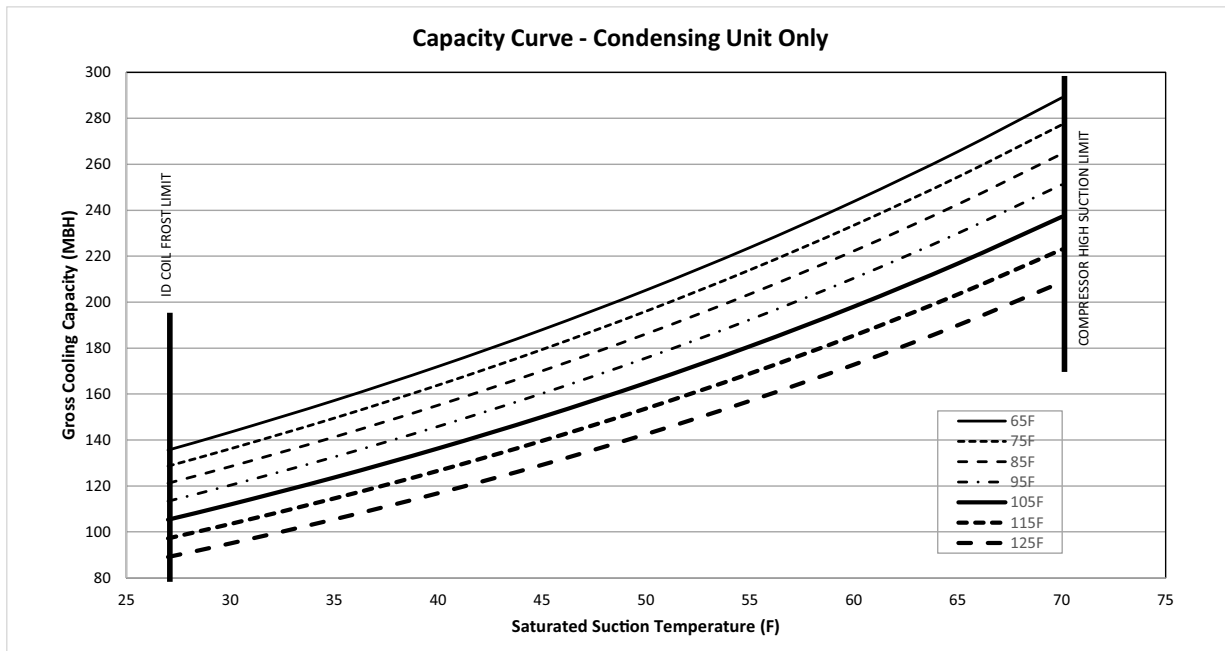
**Performance Data**

**Table 37. Gross cooling capacities (MBH) TWA1564\*D condensing unit only (IP)**

Outdoor Temp (°F)		Saturation Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	242.9	247.7	252.8	258.2	263.9	269.8
	Capacity (Btuh/1000)	143.4	157.2	172.0	188.0	205.2	223.8
	Unit Power (kW)	8.6	8.8	9.0	9.2	9.5	9.8
75	Head Press (psig)	279.7	284.8	290.3	296.0	302.0	308.2
	Capacity (Btuh/1000)	136.2	149.5	163.9	179.4	196.0	214.0
	Unit Power (kW)	9.5	9.7	9.9	10.1	10.4	10.7
85	Head Press (psig)	319.9	325.4	331.1	337.1	343.4	349.9
	Capacity (Btuh/1000)	128.4	141.3	155.1	170.1	186.2	203.5
	Unit Power (kW)	10.5	10.7	10.9	11.2	11.4	11.7
95	Head Press (psig)	363.9	369.6	375.6	381.8	388.4	395.1
	Capacity (Btuh/1000)	120.3	132.6	145.9	160.2	175.7	192.4
	Unit Power (kW)	11.7	11.9	12.1	12.3	12.6	12.8
105	Head Press (psig)	411.9	417.8	423.9	430.4	437.1	444.0
	Capacity (Btuh/1000)	111.9	123.7	136.4	150.0	164.8	180.8
	Unit Power (kW)	13.1	13.2	13.4	13.7	13.9	14.2
115	Head Press (psig)	464.2	470.2	476.5	483.1	489.8	496.8
	Capacity (Btuh/1000)	103.4	114.6	126.6	139.6	153.7	168.9
	Unit Power (kW)	14.6	14.8	15.0	15.2	15.4	15.6
125	Head Press (psig)	521.1	527.0	533.2	539.7	546.3	553.1
	Capacity (Btuh/1000)	95.0	105.5	116.8	129.2	142.5	157.0
	Unit Power (kW)	16.3	16.5	16.7	16.9	17.1	17.3

Note: Performance data calculated at 15°F subcooling and 15°F superheat and does not include capacity loss due to refrigerant lines.

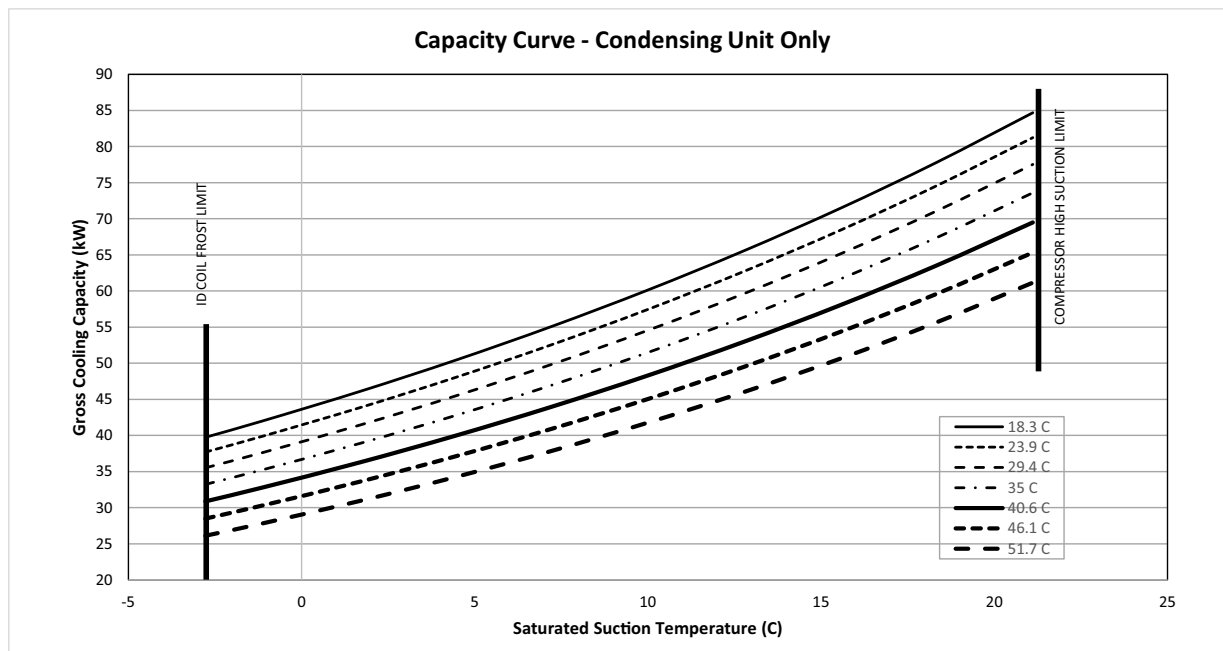
**Figure 19. TWA156DD capacity curves (IP)**



**Table 38. Gross cooling capacities (kW) TWA1564\*D condensing unit only (SI)**

Outdoor Temp (°C)		Saturation Suction Temperature (°C)					
		-1.1	1.7	4.4	7.2	10	12.8
18.3	Head Press (kPa)	1674.6	1707.9	1743.1	1780.3	1819.4	1860.3
	Capacity (kW)	42.0	46.1	50.4	55.1	60.1	65.6
	Unit Power (kW)	8.6	8.8	9.0	9.2	9.5	9.8
23.9	Head Press (kPa)	1928.2	1963.7	2001.2	2040.7	2082.0	2125.1
	Capacity (kW)	39.9	43.8	48.0	52.6	57.5	62.7
	Unit Power (kW)	9.5	9.7	9.9	10.1	10.4	10.7
29.4	Head Press (kPa)	2205.7	2243.3	2282.8	2324.3	2367.6	2412.7
	Capacity (kW)	37.6	41.4	45.5	49.8	54.6	59.6
	Unit Power (kW)	10.5	10.7	10.9	11.2	11.4	11.7
35.0	Head Press (kPa)	2508.9	2548.3	2589.5	2632.7	2677.7	2724.3
	Capacity (kW)	35.3	38.9	42.8	47.0	51.5	56.4
	Unit Power (kW)	11.7	11.9	12.1	12.3	12.6	12.8
40.6	Head Press (kPa)	2839.7	2880.3	2922.8	2967.3	3013.6	3061.5
	Capacity (kW)	32.8	36.2	40.0	44.0	48.3	53.0
	Unit Power (kW)	13.1	13.2	13.4	13.7	13.9	14.2
46.1	Head Press (kPa)	3200.6	3242.1	3285.4	3330.6	3377.3	3425.4
	Capacity (kW)	30.3	33.6	37.1	40.9	45.0	49.5
	Unit Power (kW)	14.6	14.8	15.0	15.2	15.4	15.6
51.7	Head Press (kPa)	3592.6	3633.7	3676.6	3721.0	3766.8	3813.5
	Capacity (kW)	27.8	30.9	34.2	37.9	41.8	46.0
	Unit Power (kW)	16.3	16.5	16.7	16.9	17.1	17.3

Note: Performance data calculated at 8.3°C subcooling and 8.3°C superheat and does not include capacity loss due to refrigerant lines.

**Figure 20. TWA156DD capacity curves (SI)**




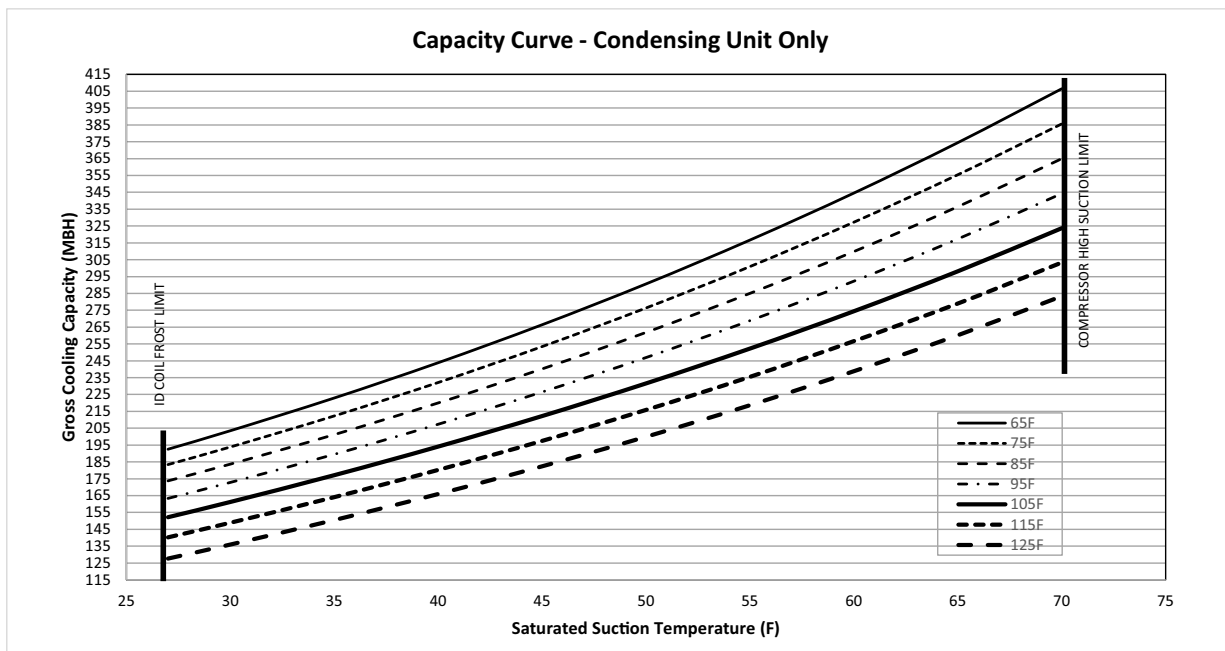
## Performance Data

**Table 39. Gross cooling capacities (MBH) TWA2014\*D condensing unit only (IP)**

Outdoor Temp (°F)		Saturation Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	258.1	264.6	271.6	279.1	287.0	295.6
	Capacity (Btuh/1000)	203.5	222.9	243.9	266.4	290.6	316.7
	Unit Power (kW)	11.8	12.0	12.3	12.6	12.9	13.3
75	Head Press (psig)	295.5	302.3	309.5	317.2	325.4	334.2
	Capacity (Btuh/1000)	193.8	212.3	232.1	253.4	276.3	300.9
	Unit Power (kW)	12.9	13.2	13.5	13.8	14.1	14.5
85	Head Press (psig)	336.3	343.3	350.7	358.7	367.1	376.2
	Capacity (Btuh/1000)	183.7	201.2	220.0	240.2	261.8	285.0
	Unit Power (kW)	14.3	14.6	14.8	15.1	15.5	15.8
95	Head Press (psig)	380.5	387.7	395.4	403.5	412.3	421.6
	Capacity (Btuh/1000)	172.8	189.5	207.3	226.5	246.9	268.8
	Unit Power (kW)	15.8	16.1	16.4	16.7	17.0	17.4
105	Head Press (psig)	428.2	435.6	443.5	451.9	460.8	470.4
	Capacity (Btuh/1000)	161.2	177.1	194.1	212.2	231.6	252.3
	Unit Power (kW)	17.5	17.8	18.1	18.4	18.7	19.1
115	Head Press (psig)	479.4	487.0	495.0	503.5	512.4	521.9
	Capacity (Btuh/1000)	148.9	164.1	180.2	197.5	215.9	235.5
	Unit Power (kW)	19.4	19.7	20.0	20.3	20.6	21.0
125	Head Press (psig)	533.8	541.4	549.3	557.6	566.2	575.3
	Capacity (Btuh/1000)	135.9	150.5	165.9	182.4	199.9	218.6
	Unit Power (kW)	21.4	21.7	22.0	22.3	22.6	23.0

Note: Performance data calculated at 15°F subcooling and 15°F superheat and does not include capacity loss due to refrigerant lines.

**Figure 21. TWA2014DD capacity curves (IP)**

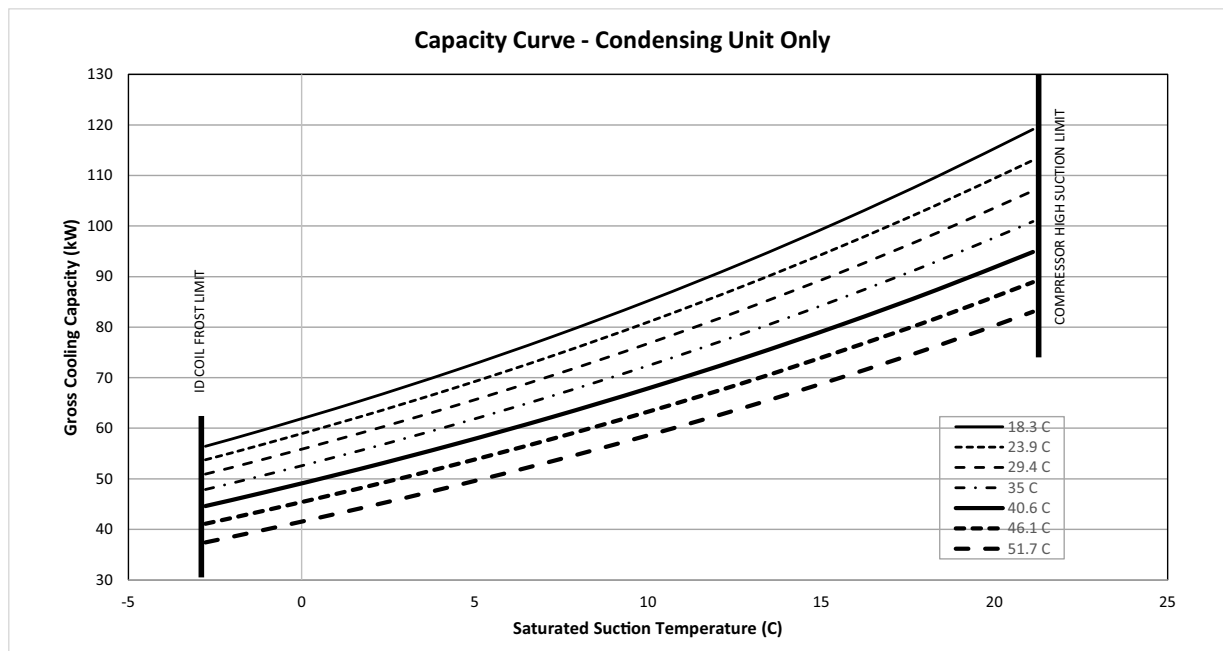




**Table 40. Gross cooling capacities (kW) TWA2014\*D condensing unit only (SI)**

Outdoor Temp (°C)		Saturation Suction Temperature (°C)					
		-1.1	1.7	4.4	7.2	10	12.8
18	Head Press (kPa)	1779.7	1824.5	1872.6	1924.1	1979.1	2037.8
	Capacity (kW)	59.6	65.3	71.5	78.1	85.2	92.8
	Unit Power (kW)	11.8	12.0	12.3	12.6	12.9	13.3
24	Head Press (kPa)	2037.6	2084.1	2133.8	2186.9	2243.4	2304.4
	Capacity (kW)	56.8	62.2	68.0	74.3	81.0	88.2
	Unit Power (kW)	12.9	13.2	13.5	13.8	14.1	14.5
29	Head Press (kPa)	2318.8	2367.0	2418.3	2472.8	2531.0	2594.1
	Capacity (kW)	53.8	59.0	64.5	70.4	76.7	83.5
	Unit Power (kW)	14.3	14.6	14.8	15.1	15.5	15.8
35	Head Press (kPa)	2623.7	2673.4	2726.1	2781.9	2842.4	2907.1
	Capacity (kW)	50.6	55.5	60.8	66.4	72.4	78.8
	Unit Power (kW)	15.8	16.1	16.4	16.7	17.0	17.4
41	Head Press (kPa)	2952.2	3003.6	3057.7	3115.6	3177.0	3243.0
	Capacity (kW)	47.2	51.9	56.9	62.2	67.9	73.9
	Unit Power (kW)	17.5	17.8	18.1	18.4	18.7	19.1
46	Head Press (kPa)	3305.4	3357.8	3412.6	3471.3	3532.7	3598.2
	Capacity (kW)	43.6	48.1	52.8	57.9	63.3	69.0
	Unit Power (kW)	19.4	19.7	20.0	20.3	20.6	21.0
52	Head Press (kPa)	3680.7	3733.1	3787.5	3844.5	3904.0	3966.2
	Capacity (kW)	39.8	44.1	48.6	53.4	58.6	64.1
	Unit Power (kW)	21.4	21.7	22.0	22.3	22.6	23.0

Note: Performance data calculated at 8.3°C subcooling and 8.3°C superheat and does not include capacity loss due to refrigerant lines.

**Figure 22. TWA2014DD capacity curves (SI)**




Performance Data

# Gross Heating Capacities

**Table 41. Gross heating capacities (MBH) - TWA0604\*A heat pump with TWE0764\*A air handler at 2000 CFM (IP)**

Outdoor Temp (°F)	Integrated Heating Capacity (MBH) at Indicated Indoor Dry Bulb Temp (°F)				Total Power (kW) at Indicated Indoor Dry Bulb Temp (°F)			
	60	70	75	80	60	70	75	80
-8	22.9	22.3	21.9	21.6	3.6	4.0	4.2	4.4
-3	25.3	24.6	24.1	23.7	3.6	4.0	4.2	4.5
2	27.8	27.1	26.7	26.3	3.7	4.1	4.3	4.5
7	30.4	29.6	29.2	28.8	3.8	4.2	4.4	4.6
12	32.8	32.0	31.5	31.0	3.8	4.2	4.5	4.7
17	35.8	34.8	34.4	33.9	3.9	4.3	4.5	4.8
22	38.9	37.9	37.4	36.9	4.0	4.4	4.6	4.9
27	42.4	41.2	40.5	39.9	4.0	4.5	4.7	4.9
32	45.8	44.5	43.7	43.0	4.1	4.5	4.8	5.0
37	49.3	47.8	47.0	46.2	4.2	4.6	4.9	5.1
42	52.9	51.1	50.2	49.3	4.3	4.7	5.0	5.2
47	56.6	54.6	53.6	52.6	4.4	4.8	5.1	5.3
52	61.0	58.3	57.1	56.6	4.5	4.9	5.2	5.4
57	65.0	62.6	61.3	60.1	4.6	5.0	5.3	5.5
62	69.0	66.2	64.8	63.4	4.7	5.1	5.4	5.6
67	73.0	69.6	68.0	66.4	4.8	5.2	5.5	5.7
72	77.1	73.2	71.3	69.3	4.9	5.4	5.6	5.8

**Notes:**

1. Net heating capacity and power include indoor fan heat at AHRI ESP. To obtain net heating at other conditions, subtract fan heat at this condition and add fan heat at new condition.
2. Integrated heating capacities and power include the effects of defrost in the frost region. All heating capacities and power are at 70% outdoor relative humidity and demand defrost cycle.

**Table 42. Gross heating capacities (kW) TWA0604\*A heat pump with TWE0764\*A air handler at 2000 CFM (SI)**

Outdoor Temp (°C)	Integrated Heating Capacity (kW) at Indicated Indoor Dry Bulb Temp (°C)				Total Power (kW) at Indicated Indoor Dry Bulb Temp (°C)			
	16	21	24	27	16	21	24	27
-22	6.7	6.5	6.4	6.3	3.6	4.0	4.2	4.4
-19	7.4	7.2	7.1	7.0	3.6	4.0	4.2	4.5
-17	8.1	7.9	7.8	7.7	3.7	4.1	4.3	4.5
-14	8.9	8.7	8.6	8.4	3.8	4.2	4.4	4.6
-11	9.6	9.4	9.2	9.1	3.8	4.2	4.5	4.7
-8	10.5	10.2	10.1	9.9	3.9	4.3	4.5	4.8
-6	11.4	11.1	11.0	10.8	4.0	4.4	4.6	4.9
-3	12.4	12.1	11.9	11.7	4.0	4.5	4.7	4.9
0	13.4	13.0	12.8	12.6	4.1	4.5	4.8	5.0
3	14.5	14.0	13.8	13.5	4.2	4.6	4.9	5.1
6	15.5	15.0	14.7	14.4	4.3	4.7	5.0	5.2
8	16.6	16.0	15.7	15.4	4.4	4.8	5.1	5.3
11	17.9	17.1	16.7	16.6	4.5	4.9	5.2	5.4
14	19.1	18.3	18.0	17.6	4.6	5.0	5.3	5.5
17	20.2	19.4	19.0	18.6	4.7	5.1	5.4	5.6
19	21.4	20.4	19.9	19.5	4.8	5.2	5.5	5.7
22	22.6	21.5	20.9	20.3	4.9	5.4	5.6	5.8

**Notes:**

1. Net heating capacity and power include indoor fan heat at AHRI ESP. To obtain net heating at other conditions, subtract fan heat at this condition and add fan heat at new condition.
2. Integrated heating capacities and power include the effects of defrost in the frost region. All heating capacities and power are at 70% outdoor relative humidity and demand defrost cycle.

**Table 43. Gross heating capacities (MBH) - TWA0604\*D heat pump with TWE0724\*B air handler at 2000 CFM (IP)**

Outdoor Temp (°F)	Integrated Heating Capacity (MBH) at Indicated Indoor Dry Bulb Temp (°F)				Total Power (kW) at Indicated Indoor Dry Bulb Temp (°F)			
	60	70	75	80	60	70	75	80
-8	16.8	15.1	14.1	13.0	3.5	3.9	4.0	4.2
-3	19.6	17.9	16.9	16.0	3.6	4.0	4.2	4.4
2	22.4	20.7	19.9	19.1	3.7	4.1	4.3	4.5
7	25.2	23.8	23.1	22.3	3.8	4.1	4.4	4.6
12	28.3	27.0	26.3	25.5	3.8	4.2	4.4	4.7
17	31.7	30.3	29.6	28.8	3.9	4.3	4.5	4.8
22	35.1	33.7	33.0	32.2	3.9	4.4	4.6	4.8
27	38.7	37.2	36.5	35.7	4.0	4.4	4.7	4.9
32	42.5	40.9	40.1	39.3	4.0	4.5	4.7	5.0
37	46.3	44.7	43.8	42.9	4.1	4.5	4.8	5.0
42	50.5	48.5	47.6	46.6	4.1	4.6	4.8	5.1
47	54.5	52.7	51.6	50.5	4.2	4.6	4.9	5.2
52	58.9	56.7	55.5	54.4	4.2	4.7	5.0	5.2
57	63.3	61.0	59.8	58.6	4.3	4.8	5.0	5.3
62	68.4	65.6	64.3	63.0	4.4	4.9	5.1	5.4
67	73.2	70.3	68.8	67.3	4.4	4.9	5.2	5.5
72	78.2	74.9	73.3	71.7	4.5	5.0	5.3	5.6

**Notes:**

1. Net heating capacity and power include indoor fan heat at AHRI ESP. To obtain net heating at other conditions, subtract fan heat at this condition and add fan heat at new condition.
2. Integrated heating capacities and power include the effects of defrost in the frost region. All heating capacities and power are at 70% outdoor relative humidity and demand defrost cycle.

**Table 44. Gross heating capacities (kW) TWA0604\*D heat pump with TWE0724\*B air handler at 2000 CFM (SI)**

Outdoor Temp (°C)	Integrated Heating Capacity (kW) at Indicated Indoor Dry Bulb Temp (°C)				Total Power (kW) at Indicated Indoor Dry Bulb Temp (°C)			
	16	21	24	27	16	21	24	27
-22	4.9	4.4	4.1	3.8	3.5	3.9	4.0	4.2
-19	5.7	5.2	4.9	4.7	3.6	4.0	4.2	4.4
-17	6.6	6.1	5.8	5.6	3.7	4.1	4.3	4.5
-14	7.4	7.0	6.8	6.5	3.8	4.1	4.4	4.6
-11	8.3	7.9	7.7	7.5	3.8	4.2	4.4	4.7
-8	9.3	8.9	8.7	8.4	3.9	4.3	4.5	4.8
-6	10.3	9.9	9.7	9.4	3.9	4.4	4.6	4.8
-3	11.3	10.9	10.7	10.4	4.0	4.4	4.7	4.9
0	12.4	12.0	11.8	11.5	4.0	4.5	4.7	5.0
3	13.6	13.1	12.8	12.6	4.1	4.5	4.8	5.0
6	14.8	14.2	13.9	13.7	4.1	4.6	4.8	5.1
8	16.0	15.4	15.1	14.8	4.2	4.6	4.9	5.2
11	17.3	16.6	16.3	16.0	4.2	4.7	5.0	5.2
14	18.6	17.9	17.5	17.2	4.3	4.8	5.0	5.3
17	20.1	19.2	18.8	18.5	4.4	4.9	5.1	5.4
19	21.5	20.6	20.2	19.7	4.4	4.9	5.2	5.5
22	22.9	22.0	21.5	21.0	4.5	5.0	5.3	5.6

**Notes:**

1. Net heating capacity and power include indoor fan heat at AHRI ESP. To obtain net heating at other conditions, subtract fan heat at this condition and add fan heat at new condition.
2. Integrated heating capacities and power include the effects of defrost in the frost region. All heating capacities and power are at 70% outdoor relative humidity and demand defrost cycle.

**Table 45. Gross heating capacities (MBH) TWA0764\*A heat pump with TWE0764\*A air handler at 2500 CFM (IP)**

Outdoor Temp (°F)	Integrated Heating Capacity (MBH) at Indicated Indoor Dry Bulb Temp (°F)				Total Power (kW) at Indicated Indoor Dry Bulb Temp (°F)			
	60	70	75	80	60	70	75	80
-8	28.6	28.0	28.0	27.9	4.4	4.9	5.2	5.5
-3	31.2	31.0	30.8	30.6	4.5	5.0	5.3	5.6
2	34.6	34.0	33.7	33.5	4.6	5.1	5.4	5.7



## Performance Data

**Table 45. Gross heating capacities (MBH) TWA0764\*A heat pump with TWE0764\*A air handler at 2500 CFM (IP) (continued)**

Outdoor Temp (°F)	Integrated Heating Capacity (MBH) at Indicated Indoor Dry Bulb Temp (°F)				Total Power (kW) at Indicated Indoor Dry Bulb Temp (°F)			
	60	70	75	80	60	70	75	80
7	37.3	36.6	36.3	36.0	4.7	5.2	5.5	5.8
12	40.7	39.8	39.4	39.0	4.8	5.3	5.6	5.9
17	44.1	43.1	42.6	42.2	4.8	5.4	5.6	6.0
22	47.8	46.7	46.1	45.6	4.9	5.5	5.7	6.1
27	51.8	50.5	49.9	49.3	5.0	5.5	5.8	6.2
32	56.0	54.4	53.6	52.9	5.1	5.6	5.9	6.3
37	60.1	58.3	57.4	56.6	5.2	5.7	6.0	6.4
42	64.3	62.3	61.3	60.3	5.3	5.8	6.1	6.5
47	68.7	66.8	65.3	64.2	5.4	5.9	6.2	6.6
52	73.9	71.3	69.5	68.3	5.5	6.0	6.3	6.7
57	78.7	75.8	74.4	73.0	5.6	6.2	6.5	6.8
62	83.6	80.3	78.7	77.1	5.7	6.3	6.6	6.9
67	88.5	84.6	82.8	81.0	5.8	6.4	6.7	7.0
72	93.5	89.1	86.9	84.7	5.9	6.5	6.8	7.1

**Notes:**

1. Net heating capacity and power include indoor fan heat at AHRI ESP. To obtain net heating at other conditions, subtract fan heat at this condition and add fan heat at new condition.
2. Integrated heating capacities and power include the effects of defrost in the frost region. All heating capacities and power are at 70% outdoor relative humidity and demand defrost cycle.

**Table 46. Gross heating capacities (kW) TWA0764\*A heat pump with TWE0764\*A air handler at 2500 CFM (SI)**

Outdoor Temp (°C)	Integrated Heating Capacity (kW) at Indicated Indoor Dry Bulb Temp (°C)				Total Power (kW) at Indicated Indoor Dry Bulb Temp (°C)			
	16	21	24	27	16	21	24	27
-22	8.4	8.2	8.2	8.2	4.4	4.9	5.2	5.5
-19	9.2	9.1	9.0	9.0	4.5	5.0	5.3	5.6
-17	10.1	10.0	9.9	9.8	4.6	5.1	5.4	5.7
-14	10.9	10.7	10.6	10.6	4.7	5.2	5.5	5.8
-11	11.9	11.7	11.5	11.4	4.8	5.3	5.6	5.9
-8	12.9	12.6	12.5	12.4	4.8	5.4	5.6	6.0
-6	14.0	13.7	13.5	13.4	4.9	5.5	5.7	6.1
-3	15.2	14.8	14.6	14.4	5.0	5.5	5.8	6.2
0	16.4	15.9	15.7	15.5	5.1	5.6	5.9	6.3
3	17.6	17.1	16.8	16.6	5.2	5.7	6.0	6.4
6	18.9	18.3	18.0	17.7	5.3	5.8	6.1	6.5
8	20.1	19.6	19.1	18.8	5.4	5.9	6.2	6.6
11	21.6	20.9	20.4	20.0	5.5	6.0	6.3	6.7
14	23.1	22.2	21.8	21.4	5.6	6.2	6.5	6.8
17	24.5	23.5	23.1	22.6	5.7	6.3	6.6	6.9
19	25.9	24.8	24.3	23.7	5.8	6.4	6.7	7.0
22	27.4	26.1	25.5	24.8	5.9	6.5	6.8	7.1

**Notes:**

1. Net heating capacity and power include indoor fan heat at AHRI ESP. To obtain net heating at other conditions, subtract fan heat at this condition and add fan heat at new condition.
2. Integrated heating capacities and power include the effects of defrost in the frost region. All heating capacities and power are at 70% outdoor relative humidity and demand defrost cycle.

**Table 47. Gross heating capacities (MBH) TWA0764\*D heat pump with TWE0764\*B air handler at 2500 CFM (IP)**

Outdoor Temp (°F)	Integrated Heating Capacity (MBH) at Indicated Indoor Dry Bulb Temp (°F)				Total Power (kW) at Indicated Indoor Dry Bulb Temp (°F)			
	60	70	75	80	60	70	75	80
-8	19.9	19.5	19.1	18.7	4.6	5.2	5.5	5.8
-3	23.4	22.9	22.5	22.1	4.6	5.2	5.5	5.9
2	27.1	26.5	26.1	25.7	4.6	5.2	5.6	5.9
7	30.9	30.2	29.7	29.3	4.7	5.3	5.6	6.0
12	34.8	34.0	33.5	33.0	4.7	5.3	5.7	6.0

**Table 47. Gross heating capacities (MBH) TWA0764\*D heat pump with TWE0764\*B air handler at 2500 CFM (IP) (continued)**

Outdoor Temp (°F)	Integrated Heating Capacity (MBH) at Indicated Indoor Dry Bulb Temp (°F)				Total Power (kW) at Indicated Indoor Dry Bulb Temp (°F)			
	60	70	75	80	60	70	75	80
17	39.0	38.0	37.4	36.9	4.8	5.4	5.7	6.0
22	43.3	42.1	41.5	40.9	4.8	5.4	5.8	6.1
27	47.8	46.5	45.8	45.1	4.9	5.5	5.8	6.2
32	52.5	51.0	50.2	49.4	5.0	5.6	5.9	6.2
37	57.3	55.5	54.6	53.7	5.0	5.6	5.9	6.3
42	62.1	60.1	59.1	58.1	5.1	5.7	6.0	6.4
47	67.0	64.9	63.8	62.7	5.2	5.8	6.1	6.4
52	72.4	70.0	68.8	67.6	5.3	5.9	6.2	6.5
57	77.9	74.9	73.6	72.2	5.4	5.9	6.2	6.6
62	83.3	80.3	78.8	77.3	5.4	6.0	6.3	6.7
67	89.0	85.5	83.7	82.0	5.5	6.1	6.4	6.8
72	94.6	90.5	88.5	86.6	5.6	6.2	6.5	6.8

**Notes:**

1. Net heating capacity and power include indoor fan heat at AHRI ESP. To obtain net heating at other conditions, subtract fan heat at this condition and add fan heat at new condition.
2. Integrated heating capacities and power include the effects of defrost in the frost region. All heating capacities and power are at 70% outdoor relative humidity and demand defrost cycle.

**Table 48. Gross heating capacities (kW) TWA0764\*D heat pump with TWE0764\*B air handler at 2500 CFM (SI)**

Outdoor Temp (°C)	Integrated Heating Capacity (kW) at Indicated Indoor Dry Bulb Temp (°C)				Total Power (kW) at Indicated Indoor Dry Bulb Temp (°C)			
	16	21	24	27	16	21	24	27
-22	5.8	5.7	5.6	5.5	4.6	5.2	5.5	5.8
-19	6.9	6.7	6.6	6.5	4.6	5.2	5.5	5.9
-17	7.9	7.8	7.7	7.5	4.6	5.2	5.6	5.9
-14	9.0	8.8	8.7	8.6	4.7	5.3	5.6	6.0
-11	10.2	10.0	9.8	9.7	4.7	5.3	5.7	6.0
-8	11.4	11.1	11.0	10.8	4.8	5.4	5.7	6.0
-6	12.7	12.4	12.2	12.0	4.8	5.4	5.8	6.1
-3	14.0	13.6	13.4	13.2	4.9	5.5	5.8	6.2
0	15.4	14.9	14.7	14.5	5.0	5.6	5.9	6.2
3	16.8	16.3	16.0	15.7	5.0	5.6	5.9	6.3
6	18.2	17.6	17.3	17.0	5.1	5.7	6.0	6.4
8	19.6	19.0	18.7	18.4	5.2	5.8	6.1	6.4
11	21.2	20.5	20.2	19.8	5.3	5.9	6.2	6.5
14	22.8	22.0	21.6	21.2	5.4	5.9	6.2	6.6
17	24.4	23.5	23.1	22.6	5.4	6.0	6.3	6.7
19	26.1	25.1	24.5	24.0	5.5	6.1	6.4	6.8
22	27.7	26.5	25.9	25.4	5.6	6.2	6.5	6.8

**Notes:**

1. Net heating capacity and power include indoor fan heat at AHRI ESP. To obtain net heating at other conditions, subtract fan heat at this condition and add fan heat at new condition.
2. Integrated heating capacities and power include the effects of defrost in the frost region. All heating capacities and power are at 70% outdoor relative humidity and demand defrost cycle.

**Table 49. Gross heating capacities (MBH) TWA1014\*A heat pump with TWE1014\*A air handler at 3333 CFM (IP)**

Outdoor Temp (°F)	Integrated Heating Capacity (MBH) at Indicated Indoor Dry Bulb Temp (°F)				Total Power (kW) at Indicated Indoor Dry Bulb Temp (°F)			
	60	70	75	80	60	70	75	80
-8	35.7	34.9	34.7	34.5	6.1	6.7	7.0	7.3
-3	40.2	39.3	39.2	38.9	6.2	6.8	7.1	7.4
2	44.8	43.9	43.6	43.2	6.2	6.8	7.1	7.5
7	49.6	48.6	48.1	47.7	6.3	6.9	7.2	7.6
12	54.2	53.0	52.5	52.0	6.4	7.0	7.4	7.7
17	59.2	57.8	57.2	56.5	6.5	7.1	7.5	7.8
22	64.3	62.7	62.0	61.3	6.6	7.3	7.6	7.9



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**Table 49. Gross heating capacities (MBH) TWA1014\*A heat pump with TWE1014\*A air handler at 3333 CFM (IP) (continued)**

Outdoor Temp (°F)	Integrated Heating Capacity (MBH) at Indicated Indoor Dry Bulb Temp (°F)				Total Power (kW) at Indicated Indoor Dry Bulb Temp (°F)			
	60	70	75	80	60	70	75	80
27	69.7	67.9	67.0	66.2	6.8	7.4	7.7	8.1
32	75.2	73.2	72.2	71.2	6.9	7.5	7.9	8.2
37	80.9	78.6	77.4	76.3	7.0	7.7	8.0	8.4
42	86.6	84.0	82.8	81.5	7.2	7.8	8.2	8.5
47	92.7	90.3	88.4	87.0	7.4	8.0	8.4	8.7
52	98.7	95.9	94.4	92.8	7.5	8.2	8.5	8.9
57	106.2	102.7	100.7	98.9	7.8	8.4	8.7	9.1
62	112.9	108.9	107.0	105.0	8.0	8.6	8.9	9.3
67	120.0	115.6	113.6	111.4	8.2	8.8	9.1	9.5
72	127.5	122.4	119.9	117.4	8.4	9.0	9.3	9.7

**Notes:**

1. Net heating capacity and power include indoor fan heat at AHRI ESP. To obtain net heating at other conditions, subtract fan heat at this condition and add fan heat at new condition.
2. Integrated heating capacities and power include the effects of defrost in the frost region. All heating capacities and power are at 70% outdoor relative humidity and demand defrost cycle.

**Table 50. Gross heating capacities (kW) TWA1014\*A heat pump with TWE1014\*A air handler at 3333 CFM (SI)**

Outdoor Temp (°C)	Integrated Heating Capacity (kW) at Indicated Indoor Dry Bulb Temp (°C)				Total Power (kW) at Indicated Indoor Dry Bulb Temp (°C)			
	16	21	24	27	16	21	24	27
-22	10.5	10.2	10.2	10.1	6.1	6.7	7.0	7.3
-19	11.8	11.5	11.5	11.4	6.2	6.8	7.1	7.4
-17	13.1	12.9	12.8	12.7	6.2	6.8	7.1	7.5
-14	14.5	14.2	14.1	14.0	6.3	6.9	7.2	7.6
-11	15.9	15.5	15.4	15.2	6.4	7.0	7.4	7.7
-8	17.3	16.9	16.8	16.6	6.5	7.1	7.5	7.8
-6	18.9	18.4	18.2	18.0	6.6	7.3	7.6	7.9
-3	20.4	19.9	19.6	19.4	6.8	7.4	7.7	8.1
0	22.1	21.4	21.2	20.9	6.9	7.5	7.9	8.2
3	23.7	23.0	22.7	22.4	7.0	7.7	8.0	8.4
6	25.4	24.6	24.3	23.9	7.2	7.8	8.2	8.5
8	27.2	26.5	25.9	25.5	7.4	8.0	8.4	8.7
11	28.9	28.1	27.7	27.2	7.5	8.2	8.5	8.9
14	31.1	30.1	29.5	29.0	7.8	8.4	8.7	9.1
17	33.1	31.9	31.4	30.8	8.0	8.6	8.9	9.3
19	35.2	33.9	33.3	32.6	8.2	8.8	9.1	9.5
22	37.4	35.9	35.2	34.4	8.4	9.0	9.3	9.7

**Notes:**

1. Net heating capacity and power include indoor fan heat at AHRI ESP. To obtain net heating at other conditions, subtract fan heat at this condition and add fan heat at new condition.
2. Integrated heating capacities and power include the effects of defrost in the frost region. All heating capacities and power are at 70% outdoor relative humidity and demand defrost cycle.

**Table 51. Gross heating capacities (MBH) TWA1014\*D heat pump with TWE1014\*B air handler at 3333 CFM (IP)**

Outdoor Temp (°F)	Integrated Heating Capacity (MBH) at Indicated Indoor Dry Bulb Temp (°F)				Total Power (kW) at Indicated Indoor Dry Bulb Temp (°F)			
	60	70	75	80	60	70	75	80
-8	32.5	31.6	31.0	30.4	5.7	6.3	6.7	7.1
-3	36.6	35.5	35.0	34.4	5.8	6.5	6.8	7.2
2	40.8	39.7	39.1	38.5	5.9	6.6	6.9	7.3
7	45.3	44.1	43.4	42.8	6.0	6.7	7.0	7.4
12	49.8	48.4	47.8	47.0	6.1	6.8	7.1	7.5
17	54.6	53.1	52.3	51.5	6.2	6.9	7.2	7.6
22	59.6	57.9	57.0	56.1	6.3	7.0	7.3	7.7
27	64.8	62.9	61.9	60.8	6.4	7.1	7.5	7.9
32	70.2	68.0	66.9	65.8	6.5	7.2	7.6	8.0

**Table 51. Gross heating capacities (MBH) TWA1014\*D heat pump with TWE1014\*B air handler at 3333 CFM (IP) (continued)**

Outdoor Temp (°F)	Integrated Heating Capacity (MBH) at Indicated Indoor Dry Bulb Temp (°F)				Total Power (kW) at Indicated Indoor Dry Bulb Temp (°F)			
	60	70	75	80	60	70	75	80
37	75.8	73.4	72.1	70.9	6.6	7.3	7.7	8.1
42	81.6	78.9	77.5	76.1	6.7	7.4	7.8	8.2
47	88.0	85.0	83.5	82.0	6.8	7.6	8.0	8.4
52	94.6	91.3	89.5	87.8	7.0	7.7	8.1	8.6
57	101.5	97.7	95.8	93.9	7.1	7.9	8.3	8.7
62	108.4	104.2	102.0	99.9	7.3	8.1	8.5	8.9
67	115.3	110.6	108.0	105.6	7.5	8.3	8.7	9.1
72	122.7	116.2	113.4	110.6	7.7	8.4	8.8	9.3

**Notes:**

1. Net heating capacity and power include indoor fan heat at AHRI ESP. To obtain net heating at other conditions, subtract fan heat at this condition and add fan heat at new condition.
2. Integrated heating capacities and power include the effects of defrost in the frost region. All heating capacities and power are at 70% outdoor relative humidity and demand defrost cycle.

**Table 52. Gross heating capacities (kW) TWA1014\*D heat pump with TWE1014\*B air handler at 3333 CFM (SI)**

Outdoor Temp (°C)	Integrated Heating Capacity (kW) at Indicated Indoor Dry Bulb Temp (°C)				Total Power (kW) at Indicated Indoor Dry Bulb Temp (°C)			
	16	21	24	27	16	21	24	27
-22	9.5	9.2	9.1	8.9	5.7	6.3	6.7	7.1
-19	10.7	10.4	10.3	10.1	5.8	6.5	6.8	7.2
-17	12.0	11.6	11.5	11.3	5.9	6.6	6.9	7.3
-14	13.3	12.9	12.7	12.5	6.0	6.7	7.0	7.4
-11	14.6	14.2	14.0	13.8	6.1	6.8	7.1	7.5
-8	16.0	15.6	15.3	15.1	6.2	6.9	7.2	7.6
-6	17.5	17.0	16.7	16.4	6.3	7.0	7.3	7.7
-3	19.0	18.4	18.1	17.8	6.4	7.1	7.5	7.9
0	20.6	19.9	19.6	19.3	6.5	7.2	7.6	8.0
3	22.2	21.5	21.1	20.8	6.6	7.3	7.7	8.1
6	23.9	23.1	22.7	22.3	6.7	7.4	7.8	8.2
8	25.8	24.9	24.5	24.0	6.8	7.6	8.0	8.4
11	27.7	26.7	26.2	25.7	7.0	7.7	8.1	8.6
14	29.7	28.6	28.1	27.5	7.1	7.9	8.3	8.7
17	31.8	30.5	29.9	29.3	7.3	8.1	8.5	8.9
19	33.8	32.4	31.6	30.9	7.5	8.3	8.7	9.1
22	36.0	34.1	33.2	32.4	7.7	8.4	8.8	9.3

**Notes:**

1. Net heating capacity and power include indoor fan heat at AHRI ESP. To obtain net heating at other conditions, subtract fan heat at this condition and add fan heat at new condition.
2. Integrated heating capacities and power include the effects of defrost in the frost region. All heating capacities and power are at 70% outdoor relative humidity and demand defrost cycle.

**Table 53. Gross heating capacities (MBH) TWA1564\*D heat pump with TWE1564\*B air handler at 5000 CFM (IP)**

Outdoor Temp (°F)	Integrated Heating Capacity (MBH) at Indicated Indoor Dry Bulb Temp (°F)				Total Power (kW) at Indicated Indoor Dry Bulb Temp (°F)			
	60	70	75	80	60	70	75	80
-8	52.9	50.5	49.3	48.6	9.3	10.3	10.9	11.4
-3	59.8	57.1	56.2	55.6	9.5	10.5	11.1	11.7
2	66.8	64.4	63.6	62.9	9.7	10.7	11.3	11.9
7	74.0	72.1	71.2	70.3	9.9	10.9	11.5	12.1
12	82.2	80.0	79.0	78.0	10.1	11.2	11.8	12.4
17	90.7	88.2	87.0	85.7	10.3	11.4	12.0	12.6
22	99.1	96.4	95.0	93.7	10.5	11.6	12.2	12.9
27	107.6	105.2	103.6	101.6	10.8	11.9	12.5	13.1
32	116.8	113.4	111.7	110.1	11.0	12.1	12.7	13.4
37	126.0	122.3	120.4	118.7	11.3	12.4	13.0	13.6
42	135.3	131.3	129.3	127.4	11.5	12.6	13.2	13.9



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**Table 53. Gross heating capacities (MBH) TWA1564\*D heat pump with TWE1564\*B air handler at 5000 CFM (IP) (continued)**

Outdoor Temp (°F)	Integrated Heating Capacity (MBH) at Indicated Indoor Dry Bulb Temp (°F)				Total Power (kW) at Indicated Indoor Dry Bulb Temp (°F)			
	60	70	75	80	60	70	75	80
47	145.1	141.0	138.6	136.6	11.8	12.9	13.5	14.2
52	155.9	151.1	148.8	146.4	12.1	13.3	13.9	14.5
57	167.2	162.0	159.3	156.7	12.5	13.6	14.2	14.9
62	179.3	173.4	170.5	167.6	12.9	14.0	14.6	15.3
67	192.0	185.5	182.3	179.1	13.3	14.5	15.1	15.7
72	203.4	196.1	192.5	188.9	13.7	14.9	15.5	16.1

**Notes:**

1. Net heating capacity and power include indoor fan heat at AHRI ESP. To obtain net heating at other conditions, subtract fan heat at this condition and add fan heat at new condition.
2. Integrated heating capacities and power include the effects of defrost in the frost region. All heating capacities and power are at 70% outdoor relative humidity and demand defrost cycle.

**Table 54. Gross heating capacities (kW) TWA1564\*D heat pump with TWE1564\*B air handler at 5000 CFM (SI)**

Outdoor Temp (°C)	Integrated Heating Capacity (kW) at Indicated Indoor Dry Bulb Temp (°C)				Total Power (kW) at Indicated Indoor Dry Bulb Temp (°C)			
	16	21	24	27	16	21	24	27
-22	15.5	14.8	14.4	14.2	9.3	10.3	10.9	11.4
-19	17.5	16.7	16.5	16.3	9.5	10.5	11.1	11.7
-17	19.6	18.9	18.6	18.4	9.7	10.7	11.3	11.9
-14	21.7	21.1	20.9	20.6	9.9	10.9	11.5	12.1
-11	24.1	23.5	23.1	22.8	10.1	11.2	11.8	12.4
-8	26.6	25.8	25.5	25.1	10.3	11.4	12.0	12.6
-6	29.1	28.2	27.8	27.5	10.5	11.6	12.2	12.9
-3	31.5	30.8	30.4	29.8	10.8	11.9	12.5	13.1
0	34.2	33.2	32.7	32.3	11.0	12.1	12.7	13.4
3	36.9	35.8	35.3	34.8	11.3	12.4	13.0	13.6
6	39.7	38.5	37.9	37.3	11.5	12.6	13.2	13.9
8	42.5	41.3	40.6	40.0	11.8	12.9	13.5	14.2
11	45.7	44.3	43.6	42.9	12.1	13.3	13.9	14.5
14	49.0	47.5	46.7	45.9	12.5	13.6	14.2	14.9
17	52.5	50.8	50.0	49.1	12.9	14.0	14.6	15.3
19	56.3	54.4	53.4	52.5	13.3	14.5	15.1	15.7
22	59.6	57.5	56.4	55.4	13.7	14.9	15.5	16.1

**Notes:**

1. Net heating capacity and power include indoor fan heat at AHRI ESP. To obtain net heating at other conditions, subtract fan heat at this condition and add fan heat at new condition.
2. Integrated heating capacities and power include the effects of defrost in the frost region. All heating capacities and power are at 70% outdoor relative humidity and demand defrost cycle.

**Table 55. Gross heating capacities (MBH) TWA2014\*D heat pump with TWE2014\*B air handler at 6667 CFM (IP)**

Outdoor Temp (°F)	Integrated Heating Capacity (MBH) at Indicated Indoor Dry Bulb Temp (°F)				Total Power (kW) at Indicated Indoor Dry Bulb Temp (°F)			
	60	70	75	80	60	70	75	80
-8	68.6	66.6	65.6	64.5	12.8	13.9	14.6	15.2
-3	77.6	74.9	73.8	72.6	12.9	14.1	14.7	15.4
2	87.3	84.9	83.6	82.2	13.0	14.3	14.9	15.6
7	95.4	92.4	91.0	89.6	13.2	14.4	15.1	15.8
12	105.0	102.1	100.6	99.0	13.4	14.6	15.3	16.0
17	115.6	112.2	110.5	108.8	13.6	14.9	15.5	16.3
22	126.5	122.1	120.2	118.1	13.8	15.1	15.8	16.5
27	137.1	132.8	130.6	128.4	14.1	15.4	16.0	16.8
32	148.9	143.9	141.4	138.9	14.3	15.6	16.3	17.1
37	160.6	155.0	152.2	149.3	14.6	15.9	16.6	17.4
42	172.7	166.4	163.2	160.1	14.9	16.2	16.9	17.7
47	185.5	178.5	175.1	171.7	15.3	16.6	17.3	18.1
52	199.4	191.7	187.8	184.0	15.6	17.0	17.7	18.4



**Table 55. Gross heating capacities (MBH) TWA2014\*D heat pump with TWE2014\*B air handler at 6667 CFM (IP) (continued)**

Outdoor Temp (°F)	Integrated Heating Capacity (MBH) at Indicated Indoor Dry Bulb Temp (°F)				Total Power (kW) at Indicated Indoor Dry Bulb Temp (°F)			
	60	70	75	80	60	70	75	80
57	214.0	205.4	201.0	196.8	16.0	17.4	18.1	18.9
62	229.1	219.4	214.8	210.2	16.5	17.8	18.5	19.3
67	244.5	233.9	228.7	223.6	16.9	18.2	19.0	19.7
72	266.1	249.0	243.1	237.3	17.5	18.7	19.4	20.2

**Notes:**

1. Net heating capacity and power include indoor fan heat at AHRI ESP. To obtain net heating at other conditions, subtract fan heat at this condition and add fan heat at new condition.
2. Integrated heating capacities and power include the effects of defrost in the frost region. All heating capacities and power are at 70% outdoor relative humidity and demand defrost cycle.

**Table 56. Gross heating capacities (kW) TWA2014\*D heat pump with TWE2014\*B air handler at 6667 CFM (SI)**

Outdoor Temp (°C)	Integrated Heating Capacity (kW) at Indicated Indoor Dry Bulb Temp (°C)				Total Power (kW) at Indicated Indoor Dry Bulb Temp (°C)			
	16	21	24	27	16	21	24	27
-22	20.1	19.5	19.2	18.9	12.8	13.9	14.6	15.2
-19	22.8	22.0	21.6	21.3	12.9	14.1	14.7	15.4
-17	25.6	24.9	24.5	24.1	13.0	14.3	14.9	15.6
-14	28.0	27.1	26.7	26.2	13.2	14.4	15.1	15.8
-11	30.8	29.9	29.5	29.0	13.4	14.6	15.3	16.0
-8	33.9	32.9	32.4	31.9	13.6	14.9	15.5	16.3
-6	37.1	35.8	35.2	34.6	13.8	15.1	15.8	16.5
-3	40.2	38.9	38.3	37.6	14.1	15.4	16.0	16.8
0	43.6	42.2	41.4	40.7	14.3	15.6	16.3	17.1
3	47.1	45.4	44.6	43.8	14.6	15.9	16.6	17.4
6	50.6	48.8	47.8	46.9	14.9	16.2	16.9	17.7
8	54.4	52.3	51.3	50.3	15.3	16.6	17.3	18.1
11	58.4	56.2	55.1	53.9	15.6	17.0	17.7	18.4
14	62.7	60.2	58.9	57.7	16.0	17.4	18.1	18.9
17	67.1	64.3	63.0	61.6	16.5	17.8	18.5	19.3
19	71.7	68.5	67.0	65.5	16.9	18.2	19.0	19.7
22	78.0	73.0	71.3	69.6	17.5	18.7	19.4	20.2

**Notes:**

1. Net heating capacity and power include indoor fan heat at AHRI ESP. To obtain net heating at other conditions, subtract fan heat at this condition and add fan heat at new condition.
2. Integrated heating capacities and power include the effects of defrost in the frost region. All heating capacities and power are at 70% outdoor relative humidity and demand defrost cycle.



## Performance Data

# Fan Performance

Table 57. Evaporator fan performance — TWE051 — air handler (IP)

CFM	External Static Pressure (in H <sub>2</sub> O)													
	0.1		0.2		0.3		0.4		0.5		0.6		0.7	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
<b>3/4 HP Standard Motor</b>														
1400	612	0.20	674	0.24	731	0.29	786	0.34	840	0.40	891	0.45	940	0.52
1500	648	0.24	705	0.28	761	0.34	813	0.39	863	0.44	912	0.50	960	0.57
1600	683	0.28	737	0.33	791	0.39	840	0.44	888	0.50	935	0.56	981	0.62
1700	720	0.34	770	0.38	820	0.44	869	0.50	915	0.56	959	0.62	1004	0.68
1800	756	0.39	804	0.44	852	0.50	898	0.56	943	0.62	985	0.69	1028	0.75
1900	790	0.45	838	0.50	884	0.56	928	0.63	970	0.69	1012	0.76	1053	0.83
2000	830	0.53	871	0.57	917	0.64	960	0.71	1000	0.77	1040	0.84	1079	0.91
2100	868	0.61	908	0.66	950	0.72	991	0.79	1031	0.86	1068	0.93	1106	1.00
<b>External Static Pressure (in H<sub>2</sub>O)</b>														
CFM														
	0.8		0.9		1		1.1		1.2		1.3		1.4	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
<b>1.5 HP High Static Motor</b>														
1400	988	0.58	1035	0.65	1077	0.72	1117	0.78	1155	0.84	-	-	-	-
1500	1006	0.63	1051	0.70	1094	0.78	1136	0.85	-	-	-	-	-	-
1600	1025	0.69	1069	0.76	1111	0.84	1152	0.91	-	-	-	-	-	-
1700	1046	0.75	1088	0.82	1129	0.90	1169	0.98	-	-	-	-	-	-
1800	1069	0.82	1110	0.89	1149	0.97	-	-	-	-	-	-	-	-
1900	1092	0.90	1132	0.97	1170	1.05	-	-	-	-	-	-	-	-
2000	1117	0.98	1155	1.06	-	-	-	-	-	-	-	-	-	-
2100	1143	1.07	1180	1.15	-	-	-	-	-	-	-	-	-	-

**Notes:**

1. Data includes pressure drop due to wet coil and 1" filter.
2. Fan motor heat (MBh) = 3.15 x BHP.
3. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.

**Table 58. Evaporator fan performance — TWE051 — air handler (SI)**

External Static Pressure (in H <sub>2</sub> O)														
	25		50		75		100		125		149		174	
m <sup>3</sup> /hr	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW
<b>3/4 hp standard motor</b>														
2379	612	0.15	674	0.18	731	0.22	786	0.25	840	0.30	891	0.34	940	0.39
2549	648	0.18	705	0.21	761	0.25	813	0.29	863	0.33	912	0.37	960	0.42
2719	683	0.21	737	0.25	791	0.29	840	0.33	888	0.37	935	0.42	981	0.46
2889	720	0.25	770	0.29	820	0.33	869	0.37	915	0.41	959	0.46	1004	0.51
3059	756	0.29	804	0.33	852	0.37	898	0.42	943	0.46	985	0.51	1028	0.56
3228	790	0.34	838	0.38	884	0.42	928	0.47	970	0.52	1012	0.57	1053	0.62
3398	830	0.39	871	0.43	917	0.48	960	0.53	1000	0.58	1040	0.63	1079	0.68
3568	868	0.45	908	0.49	950	0.54	991	0.59	1031	0.64	1068	0.69	1106	0.75
<b>External Static Pressure (in H<sub>2</sub>O)</b>														
	199		224		249		274		299		324		349	
m <sup>3</sup> /hr	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW
<b>1.5hp high static motor</b>														
2379	988	0.43	1035	0.49	1077	0.54	1117	0.58	1155	0.63	-	-	-	-
2549	1006	0.47	1051	0.52	1094	0.58	1136	0.64	-	-	-	-	-	-
2719	1025	0.51	1069	0.57	1111	0.62	1152	0.68	-	-	-	-	-	-
2889	1046	0.56	1088	0.61	1129	0.67	1169	0.73	-	-	-	-	-	-
3059	1069	0.61	1110	0.67	1149	0.72	-	-	-	-	-	-	-	-
3228	1092	0.67	1132	0.73	1170	0.78	-	-	-	-	-	-	-	-
3398	1117	0.73	1155	0.79	-	-	-	-	-	-	-	-	-	-
3568	1143	0.80	1180	0.86	-	-	-	-	-	-	-	-	-	-

**Notes:**

1. Data includes pressure drop due to wet coil and 1" filter.
2. Fan motor heat (kW) = 1.238 x kW.
3. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.



## Performance Data

**Table 59. Evaporator fan performance — TWE072 — air handler (IP)**

External Static Pressure (in H <sub>2</sub> O)																					
		0.10"		0.20"		0.30"		0.40"		0.50"		0.60"		0.70"		0.80"		0.90"		1.00"	
CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
											<b>1.5 HP Standard Motor</b>										
											<b>2 High Static Motor</b>										
1600	—	—	476	0.21	544	0.28	605	0.36	659	0.45	708	0.53	752	0.61	793	0.70	831	0.78	866	0.87	
1700	—	—	488	0.23	554	0.31	614	0.39	668	0.48	717	0.57	762	0.66	803	0.75	841	0.83	877	0.92	
1800	—	—	501	0.26	564	0.34	623	0.42	677	0.51	726	0.60	771	0.70	813	0.79	851	0.89	888	0.98	
1900	—	—	515	0.29	575	0.37	633	0.45	686	0.55	735	0.64	781	0.74	822	0.84	861	0.94	898	1.04	
2000	—	—	530	0.32	587	0.40	643	0.49	696	0.58	744	0.68	790	0.79	831	0.89	871	0.99	907	1.10	
2100	483	0.28	546	0.36	600	0.43	654	0.53	706	0.62	754	0.73	799	0.83	841	0.94	880	1.05	917	1.16	
2200	499	0.31	562	0.39	613	0.47	665	0.57	716	0.67	763	0.77	808	0.88	850	0.99	889	1.11	926	1.22	
2300	515	0.34	578	0.44	627	0.52	677	0.61	726	0.71	773	0.82	817	0.93	859	1.05	898	1.16	936	1.28	
2400	532	0.38	594	0.48	642	0.56	689	0.66	737	0.76	783	0.87	826	0.98	868	1.10	907	1.22	945	1.35	
<b>External Static Pressure (in H<sub>2</sub>O)</b>																					
		1.10"		1.20"		1.30"		1.40"		1.50"		1.60"		1.70"		1.80"		1.90"		2.00"	
CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
<b>3 HP Ultra High Static Motor</b>																					
1600	898	0.95	929	1.03	958	1.11	986	1.19	1013	1.27	1039	1.35	1064	1.43	1089	1.51	1113	1.60	1137	1.68	
1700	911	1.01	942	1.10	971	1.19	999	1.27	1026	1.35	1052	1.44	1078	1.52	1102	1.61	1126	1.70	—	—	
1800	922	1.08	954	1.17	984	1.27	1013	1.36	1040	1.45	1066	1.53	1091	1.62	1116	1.71	1140	1.80	—	—	
1900	932	1.14	965	1.24	996	1.34	1025	1.44	1054	1.54	1080	1.63	1105	1.73	1129	1.82	—	—	—	—	
2000	942	1.21	975	1.31	1006	1.42	1036	1.52	1065	1.63	1092	1.73	1118	1.83	1143	1.93	—	—	—	—	
2100	952	1.27	985	1.38	1017	1.49	1047	1.60	1076	1.71	1104	1.82	1130	1.93	—	—	—	—	—	—	
2200	962	1.34	995	1.45	1027	1.57	1057	1.69	1087	1.80	1114	1.92	1141	2.03	—	—	—	—	—	—	
2300	971	1.40	1005	1.52	1037	1.65	1067	1.77	1097	1.89	1125	2.01	—	—	—	—	—	—	—	—	
2400	980	1.47	1014	1.60	1046	1.72	1077	1.85	1107	1.98	1135	2.10	—	—	—	—	—	—	—	—	

**Notes:**

1. Data includes pressure drop due to wet coil and 1" filter.
2. Fan motor heat (MBh) = 3.15 x BHP.
3. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.

**Table 60. Evaporator fan performance — TWE072 — air handler (SI)**

External Static Pressure (Pascals)																				
m <sup>3</sup> /hr	25		50		75		100		125		150		174		199		224		249	
	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW
<b>1.5 HP Standard Motor</b>											<b>2 HP High Static Motor</b>									
2718	—	—	476	0.16	544	0.21	605	0.27	659	0.33	708	0.40	752	0.46	793	0.52	831	0.58	866	0.65
2888	—	—	488	0.17	554	0.23	614	0.29	668	0.36	717	0.42	762	0.49	803	0.56	841	0.62	877	0.69
3058	—	—	501	0.19	564	0.25	623	0.31	677	0.38	726	0.45	771	0.52	813	0.59	851	0.66	888	0.73
3228	—	—	515	0.22	575	0.27	633	0.34	686	0.41	735	0.48	781	0.55	822	0.63	861	0.70	898	0.78
3398	—	—	530	0.24	587	0.30	643	0.36	696	0.44	744	0.51	790	0.59	831	0.66	871	0.74	907	0.82
3568	483	0.21	546	0.27	600	0.32	654	0.39	706	0.47	754	0.54	799	0.62	841	0.70	880	0.78	917	0.87
3738	499	0.23	562	0.29	613	0.35	665	0.42	716	0.50	763	0.58	808	0.66	850	0.74	889	0.82	926	0.91
3908	515	0.26	578	0.33	627	0.39	677	0.45	726	0.53	773	0.61	817	0.69	859	0.78	898	0.87	936	0.96
4078	532	0.28	594	0.36	642	0.42	689	0.49	737	0.57	783	0.65	826	0.73	868	0.82	907	0.91	945	1.00
<b>External Static Pressure (Pascals)</b>																				
m <sup>3</sup> /hr	274		299		324		349		374		399		423		448		473		498	
	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW
<b>3HP Ultra High Static Motor</b>																				
2718	898	0.71	929	0.77	958	0.82	986	0.88	1013	0.94	1039	1.01	1064	1.07	1089	1.13	1113	1.19	1137	1.25
2888	911	0.76	942	0.82	971	0.88	999	0.95	1026	1.01	1052	1.07	1078	1.14	1102	1.20	1126	1.27	—	—
3058	922	0.80	954	0.87	984	0.94	1013	1.01	1040	1.08	1066	1.14	1091	1.21	1116	1.28	1140	1.35	—	—
3228	932	0.85	965	0.93	996	1.00	1025	1.07	1054	1.15	1080	1.22	1105	1.29	1129	1.36	—	—	—	—
3398	942	0.90	975	0.98	1006	1.06	1036	1.13	1065	1.21	1092	1.29	1118	1.37	1143	1.44	—	—	—	—
3568	952	0.95	985	1.03	1017	1.11	1047	1.20	1076	1.28	1104	1.36	1130	1.44	—	—	—	—	—	—
3738	962	1.00	995	1.08	1027	1.17	1057	1.26	1087	1.34	1114	1.43	1141	1.51	—	—	—	—	—	—
3908	971	1.05	1005	1.14	1037	1.23	1067	1.32	1097	1.41	1125	1.50	—	—	—	—	—	—	—	—
4078	980	1.10	1014	1.19	1046	1.29	1077	1.38	1107	1.47	1135	1.57	—	—	—	—	—	—	—	—

**Notes:**

1. Data includes pressure drop due to wet coil and 1" filter.
2. Fan motor heat (kW) = 1.238 x kW.
3. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.



## Performance Data

**Table 61. Evaporator fan performance — TWE076 — air handler (IP)**

External Static Pressure (Inches of Water Gauge)																					
		0.10"		0.20"		0.30"		0.40"		0.50"		0.60"		0.70"		0.80"		0.90"		1.00"	
CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
<b>1.5 HP Standard Motor</b>										<b>2 HP High Static Motor</b>											
2000	468	0.25	530	0.32	587	0.40	643	0.49	696	0.58	744	0.68	790	0.79	831	0.89	871	0.99	907	1.10	
2125	487	0.28	550	0.37	603	0.44	657	0.54	708	0.63	756	0.74	801	0.84	843	0.95	882	1.06	919	1.18	
2250	507	0.33	569	0.41	620	0.49	671	0.59	721	0.69	768	0.79	812	0.91	854	1.02	894	1.13	931	1.25	
2375	528	0.37	589	0.47	638	0.55	686	0.64	734	0.75	780	0.86	824	0.97	866	1.09	905	1.21	942	1.33	
2500	550	0.42	610	0.53	658	0.62	702	0.71	749	0.81	793	0.93	836	1.04	877	1.16	916	1.29	954	1.41	
2625	572	0.48	631	0.59	677	0.68	720	0.78	764	0.88	807	1.00	849	1.12	889	1.24	928	1.37	965	1.50	
2750	595	0.55	650	0.66	697	0.76	738	0.86	779	0.96	821	1.08	862	1.20	902	1.33	940	1.46	977	1.59	
2875	619	0.62	668	0.73	717	0.84	757	0.94	796	1.04	836	1.16	876	1.28	915	1.41	952	1.55	988	1.69	
3000	643	0.70	688	0.80	737	0.92	777	1.03	814	1.14	852	1.25	891	1.38	928	1.51	965	1.65	1001	1.79	
<b>External Static Pressure (Inches of Water Gauge)</b>																					
		1.10"		1.20"		1.30"		1.40"		1.50"		1.60"		1.70"		1.80"		1.90"		2.00"	
CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
<b>3 HP Ultra High Static Motor</b>																					
2000	942	1.21	975	1.31	1006	1.42	1036	1.52	1065	1.63	1092	1.73	1118	1.83	-	-	-	-	-	-	
2125	954	1.29	988	1.40	1019	1.51	1050	1.62	1079	1.73	1106	1.85	1133	1.96	-	-	-	-	-	-	
2250	966	1.37	1000	1.49	1032	1.61	1062	1.73	1092	1.84	1120	1.96	-	-	-	-	-	-	-	-	
2375	978	1.45	1011	1.58	1044	1.70	1075	1.83	1104	1.95	1133	2.08	-	-	-	-	-	-	-	-	
2500	989	1.54	1023	1.67	1055	1.80	1087	1.94	1116	2.07	-	-	-	-	-	-	-	-	-	-	
2625	1000	1.63	1034	1.77	1067	1.90	1098	2.04	1128	2.18	-	-	-	-	-	-	-	-	-	-	
2750	1012	1.73	1046	1.87	1078	2.01	1110	2.15	1140	2.30	-	-	-	-	-	-	-	-	-	-	
2875	1023	1.83	1057	1.97	1090	2.12	1121	2.26	-	-	-	-	-	-	-	-	-	-	-	-	
3000	1035	1.93	1069	2.08	1101	2.23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

**Notes:**

1. Data includes pressure drop due to wet coil and 1" filter.
2. Fan motor heat (MBh) = 3.15 x BHP.
3. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.

**Table 62. Evaporator fan performance — TWE076 — air handler (SI)**

External Static Pressure (Pascals)																				
m <sup>3</sup> /hr	25		50		75		100		125		150		174		199		224		249	
	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW
1.5 HP Standard Motor										2 HP High Static Motor										
3398	468	0.18	530	0.24	587	0.30	643	0.36	696	0.44	744	0.51	790	0.59	831	0.66	871	0.74	907	0.82
3611	487	0.21	550	0.27	603	0.33	657	0.40	708	0.47	756	0.55	801	0.63	843	0.71	882	0.79	919	0.88
3823	507	0.24	569	0.31	620	0.37	671	0.44	721	0.51	768	0.59	812	0.68	854	0.76	894	0.85	931	0.93
4036	528	0.28	589	0.35	638	0.41	686	0.48	734	0.56	780	0.64	824	0.72	866	0.81	905	0.90	942	0.99
4248	550	0.32	610	0.39	658	0.46	702	0.53	749	0.61	793	0.69	836	0.78	877	0.87	916	0.96	954	1.05
4460	572	0.36	631	0.44	677	0.51	720	0.58	764	0.66	807	0.74	849	0.83	889	0.93	928	1.02	965	1.12
4673	595	0.41	650	0.49	697	0.57	738	0.64	779	0.71	821	0.80	862	0.89	902	0.99	940	1.09	977	1.19
4885	619	0.46	668	0.54	717	0.63	757	0.70	796	0.78	836	0.86	876	0.96	915	1.05	952	1.16	988	1.26
5097	643	0.52	688	0.60	737	0.69	777	0.77	814	0.85	852	0.93	891	1.03	928	1.13	965	1.23	1001	1.33
External Static Pressure (Pascals)																				
m <sup>3</sup> /hr	274		299		324		349		374		399		423		448		473		498	
	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW
3 HP Ultra High Static Motor																				
3398	942	0.90	975	0.98	1006	1.06	1036	1.13	1065	1.21	1092	1.29	1118	1.37	-	-	-	-	-	-
3611	954	0.96	988	1.04	1019	1.13	1050	1.21	1079	1.29	1106	1.38	1133	1.46	-	-	-	-	-	-
3823	966	1.02	1000	1.11	1032	1.20	1062	1.29	1092	1.38	1120	1.46	-	-	-	-	-	-	-	-
4036	978	1.08	1011	1.18	1044	1.27	1075	1.36	1104	1.46	1133	1.55	-	-	-	-	-	-	-	-
4248	989	1.15	1023	1.25	1055	1.34	1087	1.44	1116	1.54	-	-	-	-	-	-	-	-	-	-
4460	1000	1.22	1034	1.32	1067	1.42	1098	1.52	1128	1.63	-	-	-	-	-	-	-	-	-	-
4673	1012	1.29	1046	1.39	1078	1.50	1110	1.60	1140	1.71	-	-	-	-	-	-	-	-	-	-
4885	1023	1.36	1057	1.47	1090	1.58	1121	1.69	-	-	-	-	-	-	-	-	-	-	-	-
5097	1035	1.44	1069	1.55	1101	1.66	-	-	-	-	-	-	-	-	-	-	-	-	-	-

**Notes:**

1. Data includes pressure drop due to wet coil and 1" filter.
2. Fan motor heat (kW) = 1.238 x kW.
3. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.



## Performance Data

**Table 63. Evaporator fan performance — TWE101 — air handler (IP)**

External Static Pressure (Inches of Water Gauge)																					
		0.10"		0.20"		0.30"		0.40"		0.50"		0.60"		0.70"		0.80"		0.90"		1.00"	
CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
<b>2 HP Standard Motor</b>											<b>3 HP High Static Motor</b>										
2600	482	0.35	535	0.43	581	0.51	624	0.59	666	0.69	707	0.78	747	0.89	786	0.99	822	1.10	856	1.20	
2775	506	0.41	558	0.50	602	0.59	644	0.67	684	0.76	723	0.86	761	0.97	799	1.08	835	1.19	869	1.31	
2950	533	0.48	581	0.57	624	0.67	664	0.76	702	0.85	740	0.96	776	1.06	812	1.18	848	1.29	882	1.41	
3125	559	0.56	605	0.66	647	0.76	685	0.86	722	0.95	758	1.06	793	1.17	827	1.28	861	1.40	895	1.53	
3300	585	0.65	629	0.75	670	0.86	707	0.96	743	1.06	777	1.17	811	1.28	844	1.40	876	1.52	908	1.64	
3475	613	0.76	654	0.85	694	0.96	730	1.07	764	1.18	797	1.29	829	1.40	861	1.52	893	1.65	923	1.78	
3650	639	0.87	677	0.95	717	1.08	753	1.19	786	1.31	818	1.42	849	1.54	880	1.66	910	1.78	940	1.92	
3825	668	1.00	702	1.08	741	1.21	776	1.33	808	1.45	839	1.57	870	1.69	899	1.81	928	1.93	957	2.07	
4000	695	1.14	728	1.21	765	1.34	799	1.47	831	1.60	861	1.72	890	1.85	919	1.98	947	2.10	975	2.24	
External Static Pressure (Inches of Water Gauge)																					
		1.10"		1.20"		1.30"		1.40"		1.50"		1.60"		1.70"		1.80"		1.90"		2.00"	
CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
<b>3 HP High Static Motor with Field Supplied Sheave</b>																					
2600	889	1.31	920	1.42	950	1.52	979	1.63	1007	1.74	1034	1.85	1061	1.96	-	-	-	-	-	-	
2775	901	1.42	933	1.53	963	1.65	992	1.76	1019	1.87	1047	1.99	1073	2.11	-	-	-	-	-	-	
2950	914	1.53	945	1.65	975	1.77	1004	1.89	1032	2.01	1059	2.14	-	-	-	-	-	-	-	-	
3125	927	1.65	958	1.78	988	1.91	1017	2.03	1044	2.16	1071	2.29	-	-	-	-	-	-	-	-	
3300	940	1.78	971	1.91	1001	2.04	1029	2.18	1057	2.31	-	-	-	-	-	-	-	-	-	-	
3475	954	1.91	984	2.05	1013	2.19	1042	2.33	-	-	-	-	-	-	-	-	-	-	-	-	
3650	969	2.05	998	2.19	1027	2.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3825	985	2.21	1013	2.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4000	1002	2.38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

**Notes:**

1. Data includes pressure drop due to wet coil and 1" filter.
2. Fan motor heat (MBh) = 3.15 x BHP.
3. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.



**Table 64. Evaporator fan performance — TWE101 — air handler (SI)**

External Static Pressure (Pascals)																					
		25		50		75		100		125		150		174		199		224		249	
m <sup>3</sup> /hr	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	
2 HP Standard Motor										3 HP High Static Motor											
4418	482	0.26	535	0.32	581	0.38	624	0.44	666	0.51	707	0.58	747	0.66	786	0.74	822	0.82	856	0.90	
4715	506	0.30	558	0.37	602	0.44	644	0.50	684	0.57	723	0.64	761	0.72	799	0.81	835	0.89	869	0.97	
5012	533	0.36	581	0.43	624	0.50	664	0.57	702	0.64	740	0.71	776	0.79	812	0.88	848	0.96	882	1.05	
5310	559	0.42	605	0.49	647	0.56	685	0.64	722	0.71	758	0.79	793	0.87	827	0.95	861	1.04	895	1.14	
5607	585	0.49	629	0.56	670	0.64	707	0.71	743	0.79	777	0.87	811	0.95	844	1.04	876	1.13	908	1.23	
5904	613	0.57	654	0.63	694	0.72	730	0.80	764	0.88	797	0.96	829	1.05	861	1.13	893	1.23	923	1.32	
6202	639	0.65	677	0.71	717	0.80	753	0.89	786	0.98	818	1.06	849	1.15	880	1.24	910	1.33	940	1.43	
6499	668	0.75	702	0.80	741	0.90	776	0.99	808	1.08	839	1.17	870	1.26	899	1.35	928	1.44	957	1.54	
6796	695	0.85	728	0.91	765	1.00	799	1.09	831	1.19	861	1.29	890	1.38	919	1.47	947	1.57	975	1.67	
External Static Pressure (Pascals)																					
		274		299		324		349		374		398		423		448		473		498	
m <sup>3</sup> /hr	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	
3Hp High Static Motor with Field Supplied Sheave																					
4418	889	0.98	920	1.06	950	1.14	979	1.22	1007	1.30	1034	1.38	1061	1.46	-	-	-	-	-	-	
4715	901	1.06	933	1.14	963	1.23	992	1.31	1019	1.40	1047	1.48	1073	1.57	-	-	-	-	-	-	
5012	914	1.14	945	1.23	975	1.32	1004	1.41	1032	1.50	1059	1.59	-	-	-	-	-	-	-	-	
5310	927	1.23	958	1.33	988	1.42	1017	1.52	1044	1.61	1071	1.71	-	-	-	-	-	-	-	-	
5607	940	1.33	971	1.42	1001	1.52	1029	1.62	1057	1.72	-	-	-	-	-	-	-	-	-	-	
5904	954	1.42	984	1.53	1013	1.63	1042	1.74	-	-	-	-	-	-	-	-	-	-	-	-	
6202	969	1.53	998	1.64	1027	1.74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6499	985	1.65	1013	1.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6796	1002	1.77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

**Notes:**

1. Data includes pressure drop due to wet coil and 1" filter.
2. Fan motor heat (kW) = 1.238 x kW.
3. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.



**Performance Data**

**Table 65. Evaporator fan performance —TWE156 — air handler (IP)**

		External Static Pressure (Inches of Water Gauge)																			
		0.10"		0.20"		0.30"		0.40"		0.50"		0.60"		0.70"		0.80"		0.90"		1.00"	
CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
		<b>3 HP Standard Motor</b>										<b>3 HP Standard Motor with Field Sheave</b>						<b>5HP High Static Motor</b>			
4000	—	—	532	0.69	584	0.82	631	0.96	674	1.09	715	1.23	753	1.36	789	1.51	825	1.65	859	1.80	
4250	—	—	552	0.80	602	0.93	648	1.07	691	1.21	730	1.36	768	1.50	803	1.65	837	1.80	871	1.96	
4500	—	—	572	0.91	620	1.05	666	1.20	707	1.35	747	1.50	783	1.65	818	1.81	852	1.96	884	2.12	
4750	542	0.89	593	1.04	640	1.19	683	1.34	725	1.50	763	1.66	799	1.82	834	1.98	867	2.14	898	2.31	
5000	565	1.02	614	1.18	659	1.34	702	1.49	742	1.66	780	1.82	815	1.99	849	2.16	882	2.33	913	2.50	
5250	590	1.18	635	1.33	679	1.50	721	1.67	760	1.83	797	2.00	832	2.18	866	2.35	897	2.53	928	2.71	
5500	613	1.33	657	1.50	700	1.67	740	1.84	778	2.02	815	2.20	849	2.38	882	2.56	913	2.75	944	2.93	
5750	637	1.51	679	1.67	721	1.86	759	2.04	797	2.22	833	2.41	866	2.59	899	2.78	930	2.98	960	3.17	
6000	662	1.70	702	1.88	741	2.06	779	2.25	816	2.44	851	2.63	884	2.83	916	3.03	947	3.22	976	3.42	

		External Static Pressure (Inches of Water Gauge)																			
		1.10"		1.20"		1.30"		1.40"		1.50"		1.60"		1.70"		1.80"		1.90"		2.00"	
CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
		<b>5HP High Static Motor</b>		<b>5 HP High Static Motor with Field Sheave</b>																	
4000	891	1.95	922	2.10	951	2.25	979	2.40	1006	2.55	1032	2.70	1057	2.85	1081	3.00	—	—	—	—	
4250	903	2.12	934	2.28	964	2.43	992	2.59	1019	2.75	1046	2.91	1071	3.07	1095	3.23	—	—	—	—	
4500	916	2.29	947	2.46	976	2.62	1005	2.79	1032	2.96	1058	3.13	1084	3.30	—	—	—	—	—	—	
4750	928	2.47	959	2.65	989	2.82	1017	3.00	1044	3.18	1071	3.35	1097	3.53	—	—	—	—	—	—	
5000	943	2.68	972	2.85	1001	3.03	1029	3.22	1057	3.40	1083	3.59	—	—	—	—	—	—	—	—	
5250	958	2.89	987	3.07	1014	3.26	1042	3.45	1069	3.64	1096	3.84	—	—	—	—	—	—	—	—	
5500	973	3.12	1001	3.31	1029	3.50	1056	3.69	1082	3.89	—	—	—	—	—	—	—	—	—	—	
5750	989	3.37	1017	3.56	1044	3.76	1070	3.96	1096	4.16	—	—	—	—	—	—	—	—	—	—	
6000	1005	3.63	1032	3.83	1059	4.04	1085	4.24	—	—	—	—	—	—	—	—	—	—	—	—	

**Notes:**

1. Data includes pressure drop due to wet coil and 2" filter.
2. Fan motor heat (MBh) = 3.15 x BHP.
3. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.

**Table 66. Evaporator fan performance — TWE156 — air handler (SI)**

		External Static Pressure (Pascals)																			
		25		50		75		100		125		150		174		199		224		249	
m <sup>3</sup> /hr		RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW
		<b>3 HP Standard Motor</b>										<b>3 HP Standard Motor with Field Sheave</b>						<b>5HP High Static Motor</b>			
6796	—	—	—	532	0.52	584	0.61	631	0.71	674	0.81	715	0.91	753	1.02	789	1.12	825	1.23	859	1.34
7221	—	—	—	552	0.60	602	0.70	648	0.80	691	0.90	730	1.01	768	1.12	803	1.23	837	1.34	871	1.46
7646	—	—	—	572	0.68	620	0.79	666	0.90	707	1.01	747	1.12	783	1.23	818	1.35	852	1.46	884	1.58
8070	542	0.67	—	593	0.77	640	0.89	683	1.00	725	1.12	763	1.23	799	1.35	834	1.48	867	1.60	898	1.72
8495	565	0.76	—	614	0.88	659	1.00	702	1.11	742	1.24	780	1.36	815	1.48	849	1.61	882	1.74	913	1.87
8920	590	0.88	—	635	0.99	679	1.12	721	1.24	760	1.37	797	1.49	832	1.63	866	1.76	897	1.89	928	2.02
9345	613	0.99	—	657	1.12	700	1.25	740	1.37	778	1.51	815	1.64	849	1.77	882	1.91	913	2.05	944	2.19
9769	637	1.12	—	679	1.25	721	1.39	759	1.52	797	1.66	833	1.80	866	1.93	899	2.08	930	2.22	960	2.36
10194	662	1.27	—	702	1.40	741	1.53	779	1.67	816	1.82	851	1.96	884	2.11	916	2.26	947	2.40	976	2.55
		<b>External Static Pressure (Pascals)</b>																			
		274		299		324		349		374		398		423		448		473		498	
m <sup>3</sup> /hr		RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW
		<b>5HP High Static Motor with Field Sheave</b>																			
6796	891	1.46	—	922	1.57	951	1.68	979	1.79	1006	1.90	1032	2.01	1057	2.12	1081	2.23	—	—	—	—
7221	903	1.58	—	934	1.70	964	1.81	992	1.93	1019	2.05	1046	2.17	1071	2.29	1095	2.41	—	—	—	—
7646	916	1.71	—	947	1.83	976	1.96	1005	2.08	1032	2.21	1058	2.33	1084	2.46	—	—	—	—	—	—
8070	928	1.84	—	959	1.97	989	2.11	1017	2.24	1044	2.37	1071	2.50	1097	2.63	—	—	—	—	—	—
8495	943	2.00	—	972	2.13	1001	2.26	1029	2.40	1057	2.54	1083	2.68	—	—	—	—	—	—	—	—
8920	958	2.16	—	987	2.29	1014	2.43	1042	2.57	1069	2.71	1096	2.86	—	—	—	—	—	—	—	—
9345	973	2.33	—	1001	2.47	1029	2.61	1056	2.76	1082	2.90	—	—	—	—	—	—	—	—	—	—
9769	989	2.51	—	1017	2.66	1044	2.80	1070	2.95	1096	3.10	—	—	—	—	—	—	—	—	—	—
10194	1005	2.70	—	1032	2.86	1059	3.01	1085	3.16	—	—	—	—	—	—	—	—	—	—	—	—

**Notes:**

1. Data includes pressure drop due to wet coil and 2" filter.
2. Fan motor heat (kW) = 1.238 x kW.
3. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.



## Performance Data

**Table 67. Evaporator fan performance —TWE201 — air handler (IP)**

External Static Pressure (in H <sub>2</sub> O)																					
		0.10"		0.20"		0.30"		0.40"		0.50"		0.60"		0.70"		0.80"		0.90"			
CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
3 HP Low Static Motor										5 HP Standard Motor											
5200	519	0.88	563	0.99	603	1.10	640	1.22	676	1.34	711	1.46	745	1.59	776	1.72	806	1.84			
5525	546	1.04	588	1.16	626	1.27	663	1.40	697	1.52	731	1.65	763	1.79	794	1.92	824	2.06			
5850	572	1.21	613	1.34	650	1.47	685	1.59	718	1.73	750	1.86	782	2.00	812	2.14	842	2.29			
6175	600	1.41	638	1.54	674	1.68	708	1.82	741	1.95	772	2.09	802	2.23	831	2.38	860	2.53			
6500	629	1.64	664	1.77	699	1.91	731	2.05	763	2.20	793	2.34	822	2.49	851	2.64	879	2.80			
6825	654	1.86	690	2.02	724	2.17	756	2.32	786	2.47	816	2.62	844	2.77	871	2.93	898	3.09			
7150	684	2.14	718	2.30	749	2.45	780	2.60	810	2.76	838	2.92	865	3.07	892	3.24	918	3.40			
7475	710	2.42	743	2.59	775	2.76	804	2.92	833	3.08	861	3.24	888	3.40	914	3.57	939	3.74			
7800	741	2.76	770	2.91	801	3.09	830	3.26	857	3.42	884	3.59	911	3.76	936	3.94	960	4.11			
External Static Pressure (in H <sub>2</sub> O)																					
		1.00"		1.10"		1.20"		1.30"		1.40"		1.50"		1.60"		1.70"		1.80"			
CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
5 HP Standard Motor						5 HP Standard Motor with Field Sheave						7.5 HP High Static Motor									
5200	835	1.96	867	2.10	896	2.24	921	2.37	944	2.50	967	2.62	989	2.74	1010	2.87	1031	2.99			
5525	852	2.19	879	2.31	909	2.46	937	2.61	963	2.75	986	2.89	1007	3.02	1029	3.15	1050	3.29			
5850	870	2.43	896	2.57	922	2.70	949	2.84	977	3.00	1003	3.16	1026	3.31	1047	3.45	1068	3.59			
6175	888	2.69	914	2.84	940	2.98	965	3.12	989	3.27	1016	3.43	1042	3.60	1065	3.76	1087	3.92			
6500	906	2.96	932	3.12	958	3.28	982	3.44	1006	3.58	1029	3.73	1054	3.89	1079	4.07	1103	4.25			
6825	925	3.25	951	3.42	976	3.59	1000	3.76	1024	3.93	1046	4.08	1069	4.24	1091	4.39	1115	4.58			
7150	944	3.58	970	3.75	994	3.92	1018	4.10	1042	4.28	1064	4.45	1086	4.62	1108	4.78	1129	4.94			
7475	964	3.92	989	4.09	1013	4.28	1037	4.46	1060	4.65	1082	4.84	1104	5.02	1126	5.20	1146	5.36			
7800	985	4.29	1008	4.47	1032	4.66	1056	4.85	1078	5.04	1100	5.23	1122	5.43	1143	5.62	—	—			
External Static Pressure (in H <sub>2</sub> O)																					
		1.90"		2.00"		2.10"		2.20"		2.30"		2.40"									
CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP									
7.5 HP High Static Motor								7.5HP High Static Motor with Field Sheave													
5200	1052	3.12	1071	3.24	1091	3.36	1110	3.48	1128	3.60	1147	3.72									
5525	1070	3.42	1090	3.55	1109	3.68	1128	3.81	1146	3.94	1164	4.07									
5850	1088	3.73	1108	3.88	1127	4.01	1146	4.15	1164	4.29	1182	4.43									
6175	1107	4.07	1126	4.22	1145	4.37	1164	4.52	1182	4.66	—	—									
6500	1125	4.42	1145	4.58	1164	4.74	1183	4.90	—	—	—	—									
6825	1139	4.76	1161	4.95	1182	5.13	—	—	—	—	—	—									
7150	1150	5.11	1174	5.30	1196	5.51	—	—	—	—	—	—									
7475	1167	5.53	1187	5.70	—	—	—	—	—	—	—	—									
7800	—	—	—	—	—	—	—	—	—	—	—	—									

**Notes:**

1. Data includes pressure drop due to wet coil and 2" filter.
2. Fan motor heat (MBh) = 3.15 x BHP.
3. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.

**Table 68. Evaporator fan performance —TWE201 — air handler (SI)**

External Static Pressure (Pascals)																		
m <sup>3</sup> /hr	25		50		75		100		125		150		174		199		224	
	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW
3 HP Low Static Motor									5 HP Standard Motor									
8835	519	0.65	563	0.74	603	0.82	640	0.91	676	1.00	711	1.09	745	1.19	776	1.28	806	1.37
9387	546	0.77	588	0.86	626	0.95	663	1.04	697	1.13	731	1.23	763	1.33	794	1.43	824	1.54
9939	572	0.90	613	1.00	650	1.09	685	1.19	718	1.29	750	1.39	782	1.49	812	1.60	842	1.71
10491	600	1.05	638	1.15	674	1.26	708	1.35	741	1.45	772	1.56	802	1.67	831	1.78	860	1.89
11044	629	1.22	664	1.32	699	1.43	731	1.53	763	1.64	793	1.74	822	1.86	851	1.97	879	2.09
11596	654	1.39	690	1.51	724	1.62	756	1.73	786	1.84	816	1.95	844	2.07	871	2.18	898	2.30
12148	684	1.60	718	1.72	749	1.83	780	1.94	810	2.06	838	2.18	865	2.29	892	2.42	918	2.54
12700	710	1.80	743	1.93	775	2.05	804	2.17	833	2.30	861	2.42	888	2.54	914	2.66	939	2.79
13252	741	2.06	770	2.17	801	2.30	830	2.43	857	2.55	884	2.68	911	2.81	936	2.94	960	3.06
External Static Pressure (Pascals)																		
m <sup>3</sup> /hr	249		274		299		324		349		374		398		423		448	
	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW
5 HP Standard Motor						5 HP Standard Motor with Field Sheave						7.5 HP High Static Motor						
8835	835	1.46	867	1.57	896	1.67	921	1.77	944	1.86	967	1.96	989	2.05	1010	2.14	1031	2.23
9387	852	1.63	879	1.72	909	1.83	937	1.94	963	2.05	986	2.15	1007	2.25	1029	2.35	1050	2.45
9939	870	1.81	896	1.91	922	2.01	949	2.12	977	2.24	1003	2.36	1026	2.47	1047	2.58	1068	2.68
10491	888	2.01	914	2.12	940	2.22	965	2.33	989	2.44	1016	2.56	1042	2.69	1065	2.81	1087	2.92
11044	906	2.21	932	2.33	958	2.45	982	2.56	1006	2.67	1029	2.78	1054	2.90	1079	3.04	1103	3.17
11596	925	2.43	951	2.55	976	2.68	1000	2.81	1024	2.93	1046	3.05	1069	3.16	1091	3.28	1115	3.41
12148	944	2.67	970	2.80	994	2.92	1018	3.06	1042	3.19	1064	3.32	1086	3.44	1108	3.56	1129	3.68
12700	964	2.92	989	3.05	1013	3.19	1037	3.33	1060	3.47	1082	3.61	1104	3.74	1126	3.87	1146	4.00
13252	985	3.20	1008	3.33	1032	3.47	1056	3.61	1078	3.76	1100	3.90	1122	4.05	1143	4.19	—	—
External Static Pressure (Pascals)																		
m <sup>3</sup> /hr	473		498		523		548		573		598							
	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW	RPM	kW						
7.5 HP High Static Motor							7.5 HP High Static Motor with Field Sheave											
8835	1052	2.32	1071	2.41	1091	2.51	1110	2.60	1128	2.69	1147	2.78						
9387	1070	2.55	1090	2.65	1109	2.74	1128	2.84	1146	2.94	1164	3.03						
9939	1088	2.78	1108	2.89	1127	2.99	1146	3.10	1164	3.20	1182	3.30						
10491	1107	3.04	1126	3.15	1145	3.26	1164	3.37	1182	3.48	—	—						
11044	1125	3.30	1145	3.42	1164	3.54	1183	3.65	—	—	—	—						
11596	1139	3.55	1161	3.69	1182	3.82	—	—	—	—	—	—						
12148	1150	3.81	1174	3.96	1196	4.11	—	—	—	—	—	—						
12700	1167	4.13	1187	4.25	—	—	—	—	—	—	—	—						
13252	—	—	—	—	—	—	—	—	—	—	—	—						

**Notes:**

1. Data includes pressure drop due to wet coil and 2" filter.
2. Fan motor heat (kW) = 1.238 x kW.
3. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.



## Performance Data

**Table 69. Low static fan motors - constant volume air handlers**

Model	Motor	Motor Sheave Turns Open	Nominal RPM	Required Field Supplied Components		
				Motor Sheave	Blower Sheave	Belt
TWE201	Low Static Motor 2 HP (1.5 kW)	0	712	N/A	N/A	N/A
		1	677			
		2	641			
		3	605			
		4	569			
		5	533			

**Table 70. Standard fan motors - constant volume air handlers**

Model	Motor	Motor Sheave Turns Open	Nominal RPM	Required Field Supplied Components		
				Motor Sheave	Blower Sheave	Belt
TWE051	Standard Motor .5 HP (.38 kW)	0	892	N/A	N/A	N/A
		1	833			
		2	773			
		3	714			
		4	654			
		5	595			
TWE072	Standard Motor 1 HP (.75 kW)	0	706	N/A	N/A	N/A
		1	659			
		2	612			
		3	565			
		4	518			
		5	471			
TWE076	Standard Motor 1 HP (.75 kW)	0	706	N/A	N/A	N/A
		1	659			
		2	612			
		3	565			
		4	518			
		5	471			
TWE101	Standard Motor 1.5 HP (1.13 kW)	0	682	N/A	N/A	N/A
		1	644			
		2	606			
		3	568			
		4	530			
		5	492			
TWE156	Standard Motor 2 HP (1.49 kW)	0	704	N/A	N/A	N/A
		1	676			
		2	648			
		3	620			
		4	592			
		5	565			
		6	537			
TWE156	Standard Motor with Field Supplied Components 2 HP (1.49 kW) (high static)	0	809	Variable Pitch (3.2 - 4.2 Inch Pitch Diameter), 0.875 Inch Bore, Single Groove, Browning 1VL44	Fixed Pitch (7.4 Inch Pitch Diameter), 1.4375 Inch Bore, Single Groove, Browning BK80	Browning BX58
		1	770			
		2	732			
		3	693			
		4	655			
		5	616			
TWE201	Standard Motor 3.5 HP (2.61 kW)	0	814	N/A	N/A	N/A
		1	780			
		2	746			
		3	713			
		4	679			
		5	645			
TWE201	Standard Motor with Field Supplied Components 3.5 HP (2.61 kW) (high static)	0	720	Variable Pitch (2.5 - 3.5 Inch Pitch Diameter), 1.125 Inch Bore, Single Groove, Browning 1VP34	Fixed Pitch (9.9 Inch Pitch Diameter), 1.4375 Inch Bore, Single Groove, Browning BK105	Browning BX59
		1	777			
		2	835			
		3	892			
		4	950			

**Table 71. High static fan motors - constant volume air handlers**

Model	Motor	Motor Sheave Turns Open	Nominal RPM	Required Field Supplied Components		
				Motor Sheave	Blower Sheave	Belt
TWE051	High Static Motor 1 HP (.75kW)	0	1122	N/A	N/A	N/A
		1	1066			
		2	1010			
		3	954			
		4	898			
TWE072	High Static Motor 1.5 HP (1.13 kW)	0	912	N/A	N/A	N/A
		1	866			
		2	820			
		3	775			
		4	729			
TWE076	High Static Motor 1.5 HP (1.13 kW)	0	912	N/A	N/A	N/A
		1	866			
		2	820			
		3	775			
		4	729			
TWE101	High Static Motor 2 HP (1.5 kW)	0	810	N/A	N/A	N/A
		1	769			
		2	729			
		3	688			
		4	648			
TWE101	High Static Motor with Field Supplied Components 2 HP (1.5 kW)	0	855	Variable Pitch (3.6 - 4.6 Inch Pitch Diameter), 0.875 Inch Bore, Single Groove, Browning 1VP50	Fixed Pitch (6.0 Inch Pitch Diameter), 1.0 Inch Bore, Single Groove, Browning AK64	Browning A51
		1	903			
		2	950			
		3	998			
		4	1045			
TWE156	High Static Motor 3.5 HP (2.6 kW)	0	853	N/A	N/A	N/A
		1	824			
		2	794			
		3	765			
		4	735			
		5	705			
TWE156	High Static Motor with Field Supplied Components 3.5 HP (2.6 kW)	0	846	Variable Pitch (3.8 - 4.8 Inch Pitch Diameter), 1.125 Inch Bore, Single Groove, Browning 1VP50	Fixed Pitch (6.4 Inch Pitch Diameter), 1.4375 Inch Bore, Single Groove, Browning BK70	Browning BX58
		1	891			
		2	935			
		3	980			
		4	1024			
		5	1069			
TWE201	High Static Motor 5 HP (3.75 kW)	0	1078	N/A	N/A	N/A
		1	1036			
		2	993			
		3	950			
		4	907			
		5	864			
TWE201	High Static Motor with Field Supplied Components 5 HP (3.75 kW)	0	1096	Variable Pitch (2.8 - 3.8 Inch Pitch Diameter), 1.125 Inch Bore, Single Groove, Browning 1VP44	Fixed Pitch (10.4 Inch Pitch Diameter), 1.4375 Inch Bore, Single Groove, Browning BK110	Browning BX62
		1	1067			
		2	1036			
		3	1004			
		4	973			
		5	941			
6	926					



## Performance Data

**Table 72. Ultra high static fan motors - constant volume air handlers**

Model	Motor	Motor Sheave Turns Open	Nominal RPM	Required Field Supplied Components		
				Motor Sheave	Blower Sheave	Belt
TWE072	Ultra High Static Motor 2 HP (1.5 kW)	0	855	N/A	N/A	N/A
		1	912			
		2	969			
		3	1026			
		4	1083			
		5	1140			
—	—					
TWE076	Ultra High Static Motor 2 HP (1.5 kW)	0	855	N/A	N/A	N/A
		1	912			
		2	969			
		3	1026			
		4	1083			
		5	1140			
—	—					

**Table 73. Discharge plenum and grille assembly throw distance — air handler — ft (m)**

Unit Model No.	CFM	m <sup>3</sup> /h	Louver angle Deflection Position (ft)				Louver angle Deflection Position (m)			
			Straight	20°	40°	55°	Straight	20°	40°	55°
TWE051	1800	3060	46	37	29	22	14.0	11.3	8.8	6.7
	2000	3395	48	43	33	24	14.6	13.1	10.1	7.3
	2200	3737	51	50	36	25	15.5	15.2	11.0	7.6
	2400	4074	44	58	41	28	13.4	17.7	12.5	8.5
TWE072	1800	3061	47	34	28	24	14.0	10.3	8.3	8.0
	2000	3400	49	37	30	26	14.7	11.2	9.0	8.3
	2200	3739	50	40	32	28	15.3	12.2	9.8	8.5
	2400	4078	52	43	35	29	15.9	13.1	10.6	8.8
TWE076	2250	3823	51	41	33	28	15.4	12.4	10.0	8.6
	2500	4249	53	45	36	30	16.2	13.6	10.9	9.0
	2750	4671	56	49	39	31	16.9	14.9	11.9	9.4
	3000	5098	58	53	42	32	17.7	16.2	12.8	9.9
TWE101	3025	5139	57	44	36	32	17.4	13.4	10.8	9.6
	3350	5692	60	48	39	32	18.3	14.7	12.0	9.7
	3675	6245	63	52	43	33	19.3	16.0	13.2	10.0
	4000	6795	67	57	47	35	20.3	17.3	14.4	10.5
TWE156	4500	7644	46	34	30	22	14.1	10.5	9.2	6.6
	5000	8497	49	39	34	25	14.9	12.0	10.3	7.6
	5500	9346	53	45	37	28	16.2	13.6	11.4	8.5
	6000	10195	58	50	41	31	17.7	15.1	12.5	9.3
TWE201	6000	10195	53	43	36	28	16.0	13.1	10.9	8.6
	6680	11348	57	48	40	31	17.5	14.5	12.1	9.4
	7350	12488	62	52	44	33	18.8	16.0	13.3	10.0
	8030	13645	65	57	47	35	19.8	17.4	14.5	10.5

**Note:** Throw distance values are based on a terminal velocity of 75 fpm (0.38 m/s).

Throw distance values at other terminal velocities may be established by multiplying throw distances in table above by throw factor as follows:  
 for 50 FPM (0.25 m/s) terminal velocity, multiply by 1.50 throw factor;  
 for 100 FPM (0.51 m/s) terminal velocity, multiply by 0.75 throw factor;  
 for 150 FPM (0.76 m/s) terminal velocity, multiply by 0.50 throw factor.



**Table 74. Static pressure drop through accessories (inches of water column) — air handler**

Unit Model No.	CFM	m <sup>3</sup> /h	Return Grille		2" MERV 13 Filter	Discharge Plenum & Grille (b)		Electric Heaters (kW)							
			in. wc	Pascal		in. wc	Pascal	5-10		15-20		25-30		35-50	
					in. wc			Pascal	in. wc	Pascal	in. wc	Pascal	in. wc	Pascal	
TWE051	1400	2379	0.09	23.60	0.19	0.16	41.10	0.06	16.20	0.05	13.70	0.09	23.60	—	—
	1700	2889	0.14	34.90	0.24	0.24	60.60	0.09	23.90	0.08	20.20	0.14	34.90	—	—
	2000	3398	0.18	45.70	0.29	0.33	83.80	0.13	33.00	0.13	33.00	0.19	48.30	—	—
TWE072	1600	2718	0.03	9.51	0.12	0.11	28.91	0.03	7.47	0.03	7.47	0.06	14.94	0.06	14.94
	2000	3398	0.04	14.70	0.15	0.18	45.20	0.03	7.47	0.05	12.45	0.08	19.93	0.10	24.91
	2400	4078	0.06	21.11	0.19	0.26	65.07	0.04	9.96	0.07	17.44	0.11	27.40	0.15	37.36
TWE076	2000	3398	0.06	14.70	0.15	0.18	45.20	0.03	6.80	0.05	13.50	0.08	19.20	0.10	26.00
	2500	4248	0.09	22.90	0.20	0.28	70.60	0.04	10.60	0.08	21.20	0.12	30.00	0.16	40.60
	3000	5098	0.13	33.00	0.25	0.40	101.60	0.06	15.20	0.12	30.50	0.17	43.20	0.23	58.40
TWE101	2600	4418	0.05	11.70	0.15	0.28	72.10	0.04	10.10	0.09	21.80	0.13	31.90	0.17	43.60
	3300	5607	0.07	18.90	0.20	0.46	116.20	0.06	16.20	0.14	35.10	0.20	51.30	0.28	70.20
	4000	6797	0.11	27.80	0.25	0.67	170.70	0.09	23.80	0.20	51.60	0.30	75.40	0.41	103.20
TWE156	4000	6797	0.07	16.90	0.15	0.15	38.40	0.02	3.80	0.03	6.80	0.05	13.50	0.08	19.20
	5000	8496	0.10	26.50	0.20	0.24	60.00	0.04	10.60	0.04	10.60	0.08	21.20	0.12	30.00
	6000	10195	0.15	38.10	0.25	0.34	86.40	0.06	15.20	0.06	15.20	0.12	30.50	0.17	43.20
TWE201	5200	8836	0.07	18.40	0.17	0.30	73.80	0.04	10.60	0.04	10.60	0.08	21.10	0.13	31.70
	6650	11300	0.12	30.20	0.23	0.46	114.90	0.07	17.30	0.07	17.30	0.14	34.50	0.21	51.80
	7800	13254	0.16	41.50	0.28	0.63	156.10	0.10	23.80	0.10	23.80	0.19	47.50	0.29	71.30

**Notes:**

- Return air filter ESP included in Fan Performance Table data.
- On discharge plenum and grille - at louver opening angle of 42 degrees. For ESP at other angle openings, see accessory installation instruction.

**Table 75. Auxiliary electric heat capacity — air handler**

Unit Model No.	Total kW	No. of Stages	Stage 1		Stage 2		Total	
			kW Input	Btu Output	kW Input	Btu Output	kW Input	Btu Output
TWE0514DA, 0724DB, 0764DA/B, 1014DA/B	5.00	1	5.00	17,065	—	—	5.00	17,065
	9.96	1	9.96	33,993	—	—	9.96	33,993
	14.96	1	14.96	51,058	—	—	14.96	51,058
	24.92	2	14.96	51,058	9.96	33993	24.92	85,051
TWE0724DB, 0764DA/B, 1014DA/B	34.88	2	19.92	67,987	14.96	51058	34.88	119,045
TWE, 1564DB, 2014DB	10.00	1	10.00	34,130	—	—	10.00	34,130
	19.92	1	19.92	67,987	—	—	19.92	67,987
	29.92	2	19.92	67,987	10.00	34130	29.92	102,117
	49.84	2	29.92	102,117	19.92	67987	49.84	170,104

**Note:** Heaters are rated at 480V. For other than rated voltage, capacity = (Voltage/Related Voltage)<sup>2</sup> x Rated Capacity



# Zone Controls

## Zone Sensors

Zone Sensors are the building occupant's comfort control devices. Zone sensors are required for SZVAV applications. The following zone sensor options are available for units with Symbio 700 control.

<b>Manual Changeover</b>	Heat, Cool or Off System Switch. Fan Auto or Off Switch. One temperature setpoint lever.
<b>Manual/Automatic Changeover</b>	Auto, Heat, Cool or Off System Switch. Fan Auto or Off Switch. Two temperature setpoint levers.
<b>Manual/Automatic Changeover</b>	Auto, Heat, Cool or Off System Switch. Fan Auto or Off Switch. Two temperature setpoint levers.
<b>Integrated Comfort™ System</b>	Sensor(s) available with optional temperature adjustment and override buttons to provide central control through a Trane Integrated Comfort™ system.
<b>Remote Sensor</b>	Sensor(s) available for all zone sensors to provide remote sensing capabilities.

## Conventional Thermostats

*Note: All thermostats may be used with Symbio 700 units.*

Non-Programmable Thermostats	
TCONT102* (1H/1C) Common terminal not required	Auto-changeover Backlit Display and Keys Filter Reminder Keypad Lock
TCONT103* (2H/1C) Common terminal required	Auto-changeover Backlit Display & Keys Filter Reminder Keypad Lock Outdoor Temp Sensor Available
TCONT402* (3H/2C) Common terminal required	Auto-changeover Backlit Display & Keys Filter Reminder Keypad Lock Outdoor Temp Sensor Included
Programmable Thermostats	
TCONT202* (1H/1C) Common terminal preferred, not required	5/2 or 5/1/1 Programming Actual and Setpoint temps displayed simultaneously
TCONT203* (4H/2C) Common terminal preferred, not required	5/2 or 5/1/1 Programming Actual and Setpoint temps displayed simultaneously
TCONT302* (4H/2C) Common terminal preferred, not required	Interactive touchscreen Large display Real time clock
TCONT303* (4H/2C) Humidity Sensor Common terminal preferred, not required	Interactive touchscreen Large display Real time clock Built-in humidity sensor



# Electrical Data

## Heat Pump Condenser

**Table 76. Electrical characteristics — Motors — heat pumps — 50Hz**

Tons	Unit Model Number	Compressor Motors						Condenser Fan Motor				
		Volts	Phase	Compressor 1		Compressor 2		No.	Volts	Phase	Amps	
				RLA (Amps)	LRA (Amps)	RLA (Amps)	LRA (Amps)				FLA (Ea.)	LRA (Ea.)
5	TWA0604DA	380/415	3	10.6	74.0	N/A	N/A	1	380/415	3	1.2	4.2
	TWA0604DD	380/415	3	5.4	38.0	5.4	38.0	1	380/415	3	1.2	4.2
6.25	TWA0764DA	380/415	3	12.0	94.0	N/A	N/A	1	380/415	3	1.2	4.2
	TWA0764DD	380/415	3	6.0	43.0	6.0	43.0	1	380/415	3	1.2	4.2
8.33	TWA1014DA	380/415	3	14.8	130.0	N/A	N/A	1	380/415	3	2.3	9.5
	TWA1014DD	380/415	3	6.9	52.0	6.9	52.0	1	380/415	3	2.3	9.5
13	TWA1564DD	380/415	3	12.2	101.0	12.2	101.0	2	380/415	3	2.3	9.5
16.7	TWA2014DD	380/415	3	16.0	139.0	16.0	139.0	2	380/415	3	2.3	9.5

Note: Electrical characteristics reflect nameplate values and are calculated in accordance with UL specifications.

**Table 77. Unit wiring — heat pumps — 50 Hz**

Tons	Unit Model Number	Volts	Minimum Circuit Ampacity	Maximum Fuse or Circuit Breaker Size
5	TWA0604DA	380/415	14	25
5	TWA0604DD	380/415	13	15
6.25	TWA0764DA	380/415	16	25
6.25	TWA0764DD	380/415	15	20
8.33	TWA1014DA	380/415	21	35
8.33	TWA1014DD	380/415	18	20
13	TWA1564DD	380/415	32	40
16.7	TWA2014DD	380/415	41	50

## Air Handler

**Table 78. Electrical characteristics – standard motor – 50 Hz air handler**

Tons	Unit Model Number	Standard Evaporator Fan Motor							
		No.	Volts	Phase	HP	Amps		MCA	MOP
						FLA	LRA		
4.6	TWE0514DA	1	380-415	3	0.50	2.0	7.0	3	15
6	TWE0724DB	1	380-415	3	1.50	2.8	17.0	4	15
6.25	TWE0764DA, B	1	380-415	3	1.50	2.8	17.0	4	15
8.33	TWE1014DA, B	1	380-415	3	1.50	3.5	26.2	4	15
13	TWE1564DB	1	380-415	3	2.00	4.6	38.0	6	15
16.7	TWE2014DB	1	380-415	3	3.00	6.9	48.0	9	15



**Electrical Data**

**Table 79. Unit wiring with electric heat (single point connection) – air handlers**

Ton	Used With	Heater Model No.	Heater kW Rating	Unit Power Supply	Control Stages	Min Circuit Ampacity	Max Fuse or Circuit Breaker Size
4.6	TWE0514DA	BAYHTRP405*	3.13	380/3/50	1	8	15
		BAYHTRS410*	6.25	380/3/50	1	14	15
		BAYHTRS415*	9.37	380/3/50	1	20	25
		BAYHTRP425*	15.63	380/3/50	2	32	35
		BAYHTRP405*	3.74	415/3/50	1	9	15
		BAYHTRS410*	7.46	415/3/50	1	15	20
		BAYHTRS415*	11.17	415/3/50	1	22	25
		BAYHTRP425*	18.64	415/3/50	2	35	35
6	TWE0724DB	BAYHTRP405*	3.13	380/3/50	1	9	15
		BAYHTRS410*	6.25	380/3/50	1	15	20
		BAYHTRS415*	9.37	380/3/50	1	21	25
		BAYHTRP425*	15.63	380/3/50	2	33	35
		BAYHTRP405*	3.74	415/3/50	1	10	15
		BAYHTRS410*	7.46	415/3/50	1	16	20
		BAYHTRS415*	11.17	415/3/50	1	23	25
		BAYHTRP425*	18.64	415/3/50	2	36	40
6.25	TWE0764DA, B	BAYHTRP405*	3.13	380/3/50	1	9	15
		BAYHTRS410*	6.25	380/3/50	1	15	20
		BAYHTRS415*	9.37	380/3/50	1	21	25
		BAYHTRP425*	15.63	380/3/50	2	33	35
		BAYHTRP405*	3.74	415/3/50	1	10	15
		BAYHTRS410*	7.46	415/3/50	1	16	20
		BAYHTRS415*	11.17	415/3/50	1	23	25
		BAYHTRP425*	18.64	415/3/50	2	36	40
8.33	TWE1014DA, B	BAYHTRP405*	3.13	380/3/50	1	10	15
		BAYHTRS410*	6.25	380/3/50	1	16	20
		BAYHTRS415*	9.37	380/3/50	1	22	25
		BAYHTRP425*	15.63	380/3/50	2	34	35
		BAYHTRP435*	21.86	380/3/50	2	46	50
		BAYHTRP405*	3.74	415/3/50	1	11	15
		BAYHTRS410*	7.46	415/3/50	1	17	20
		BAYHTRS415*	11.17	415/3/50	1	24	25
		BAYHTRP425*	18.64	415/3/50	2	37	40
		BAYHTRP435*	26.08	415/3/50	2	50	50
13	TWE1564DB	BAYHTRT410*	6.25	380/3/50	1	18	20
		BAYHTRR420*	12.5	380/3/50	1	30	30
		BAYHTRR430*	18.76	380/3/50	2	41	45
		BAYHTRR450*	31.26	380/3/50	2	65	70
		BAYHTRT410*	7.46	415/3/50	1	19	20
		BAYHTRR420*	14.92	415/3/50	1	32	35
		BAYHTRR430*	22.38	415/3/50	2	45	45
		BAYHTRR450*	37.29	415/3/50	2	71	80
16.7	TWE2014DB	BAYHTRT410*	6.25	380/3/50	1	21	25
		BAYHTRR420*	12.5	380/3/50	1	32	35
		BAYHTRR430*	18.76	380/3/50	2	44	45
		BAYHTRR450*	31.26	380/3/50	2	68	70
		BAYHTRT410*	7.46	415/3/50	1	22	25
		BAYHTRR420*	14.92	415/3/50	1	35	35
		BAYHTRR430*	22.38	415/3/50	2	48	50
		BAYHTRR450*	37.29	415/3/50	2	74	80

**Notes:**

1. Field wire must be rated at least 167°F (75°C).
2. Field wire must be rated at least 194°F (90°C).
3. For other than rated voltage, capacity = (voltage/rated voltage)<sup>2</sup> x rated capacity and kW = (voltage/rated voltage)<sup>2</sup> rated kW.
4. Any power supply and circuits must be wired and protected in accordance with local codes.
5. MCA and MOP as shown are for Single Point Connection and Standard Evaporator Fan Motor.

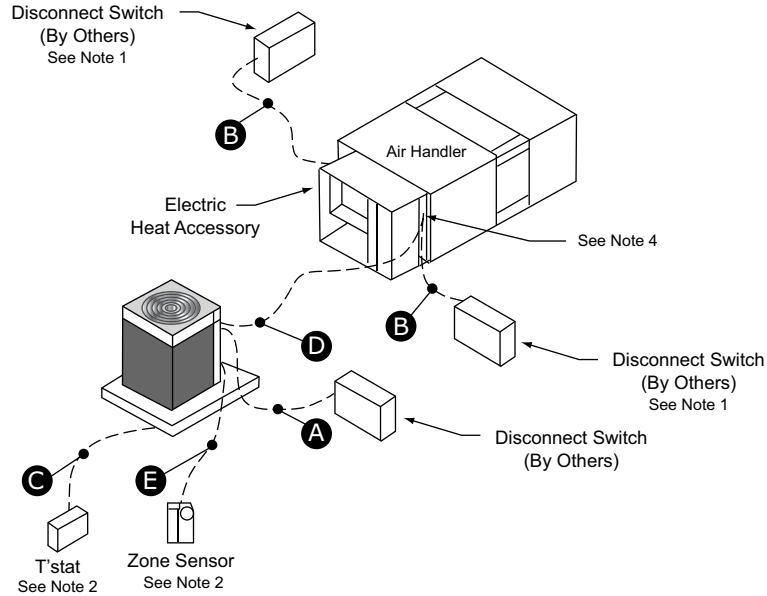


# Jobsite Connections

## Symbio™ Controls

Wiring shown with dashed lines is to be furnished and installed by the customer. All customer supplied wiring must be copper only and must conform to NEC and local electrical codes. Codes may require line of sight between disconnect switch and unit.

**Figure 23. Symbio™ jobsite connections**



### Power Wires

- A.** 3 wires, line voltage for 3 phase, 1 grounding wire\*\*
- B.** 3 wires, line voltage for 3 phase, (2 wires for single phase) 1 grounding wire\*\*

### Control Wires

- C.** Heat Pump thermostat: 6 to 9 wires depending on T'stat options and stages of cooling and heating
- D.** Wiring between indoor and outdoor unit: 5 to 11 wires depending on unit control options\*
- E.** Zone Sensor: 4 to 7 wires depending on zone sensor model\*

### Communication signal wires require shielded twisted pairs.

Use Comlink cable with a PVC jacket, 18/1 PR, stranded shield, 25 PF/FT plenum rated for the field communication signal wiring.

**Notes:**

1. When electric heater accessory is used, single point power entry or dual point power entry is field optional. Single point power entry option is through electric heater only.
2. \*Choose only one of the following; Thermostat, Mechanical Zone Sensor, Programmable Zone Sensor Panel or BAS Zone Sensor.
3. \*\*

**⚠ WARNING**

**Electrical Shock Hazard!**  
*Failure to follow instructions below could result in death or serious injury.  
 Properly connect the system's oversized protective earthing (grounding) terminal(s).*

4. Once power wire connections are complete inside the air handler control box, seal the sheet metal entry points of the control box by using parts (neoprene gasket, grommet, and plug) shipped along with the air handler unit package.
5. For detailed controls wiring instructions, see Split System Air Conditioners Odyssey™ with Symbio™ Controls Wiring and Start-Up Installation Guide (SS-SVN016\*-EN).

**Important:** For the EDC switch to be functional and thereby facilitate reliable unit operation, make the EDC connections from the indoor to the outdoor control boxes.

**Table 80. Recommended thermostat wire size**

Wire Size	Maximum Wire Length
(Gauge)	Physical distance between Unit T'stat
22	30 Feet
20	50 Feet
18	75 Feet
16	125 Feet
14	200 Feet

**Table 81. Zone sensor module wiring**

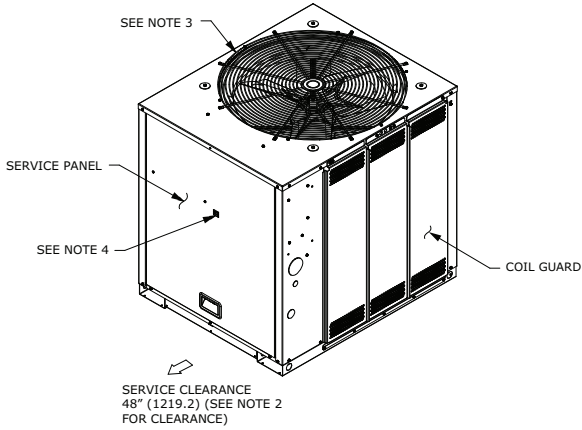
Distance from Unit to Control	Recommended Wire Size
0-150 feet (0-45.7 m)	22 gauge (0.33 mm <sup>2</sup> )
151-240 feet (46-73.1 m)	20 gauge (0.50 mm <sup>2</sup> )
241-305 feet (73.5-117.3 m)	18 gauge (0.75 mm <sup>2</sup> )
386-610 feet (117.7-185.9 m)	16 gauge (1.31 mm <sup>2</sup> )
611-970 feet (186.2-295.7 m)	14 gauge ( 2.08 mm <sup>2</sup> )



# Dimensional Data

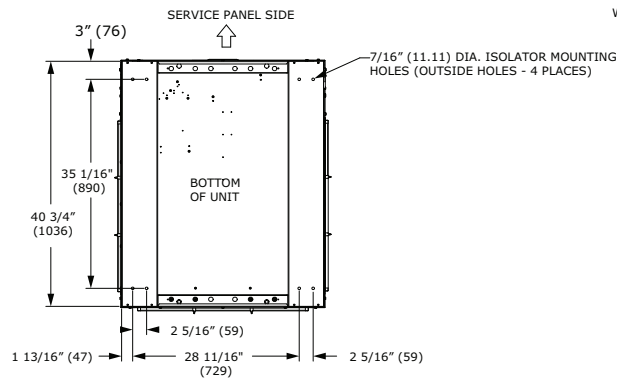
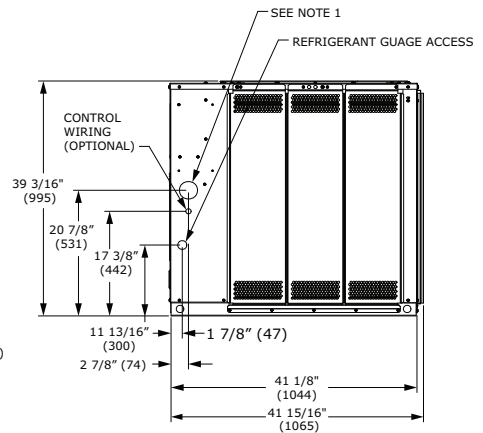
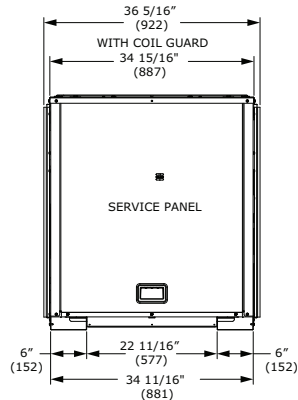
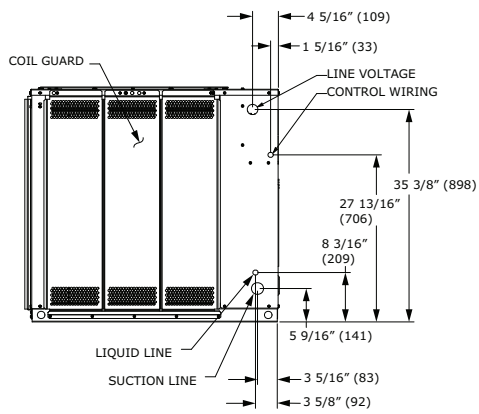
## Heat Pump

Figure 24. 5-6.25 ton heat pump, single compressor – in (mm)



NOTES:

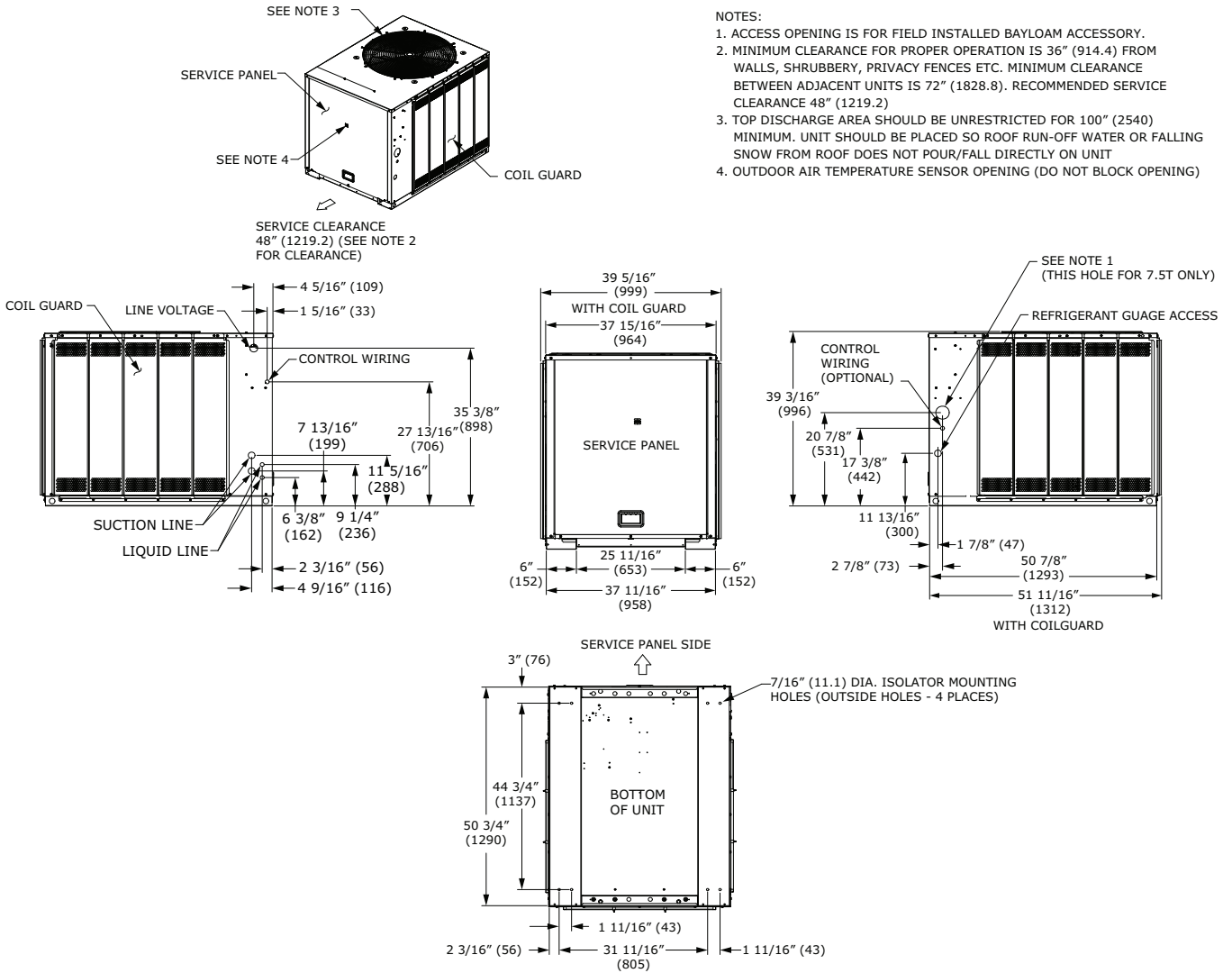
1. ACCESS OPENING IS FOR FIELD INSTALLED BAYLOAM ACCESSORY.
2. MINIMUM CLEARANCE FOR PROPER OPERATION IS 36" (914.4) FROM WALLS, SHRUBBERY, PRIVACY FENCES ETC. MINIMUM CLEARANCE BETWEEN ADJACENT UNITS IS 72" (1828.8). RECOMMENDED SERVICE CLEARANCE 48" (1219.2)
3. TOP DISCHARGE AREA SHOULD BE UNRESTRICTED FOR 100" (2540) MINIMUM. UNIT SHOULD BE PLACED SO ROOF RUN-OFF WATER OR FALLING SNOW FROM ROOF DOES NOT POUR/FALL DIRECTLY ON UNIT
4. OUTDOOR AIR TEMPERATURE SENSOR OPENING (DO NOT BLOCK OPENING)



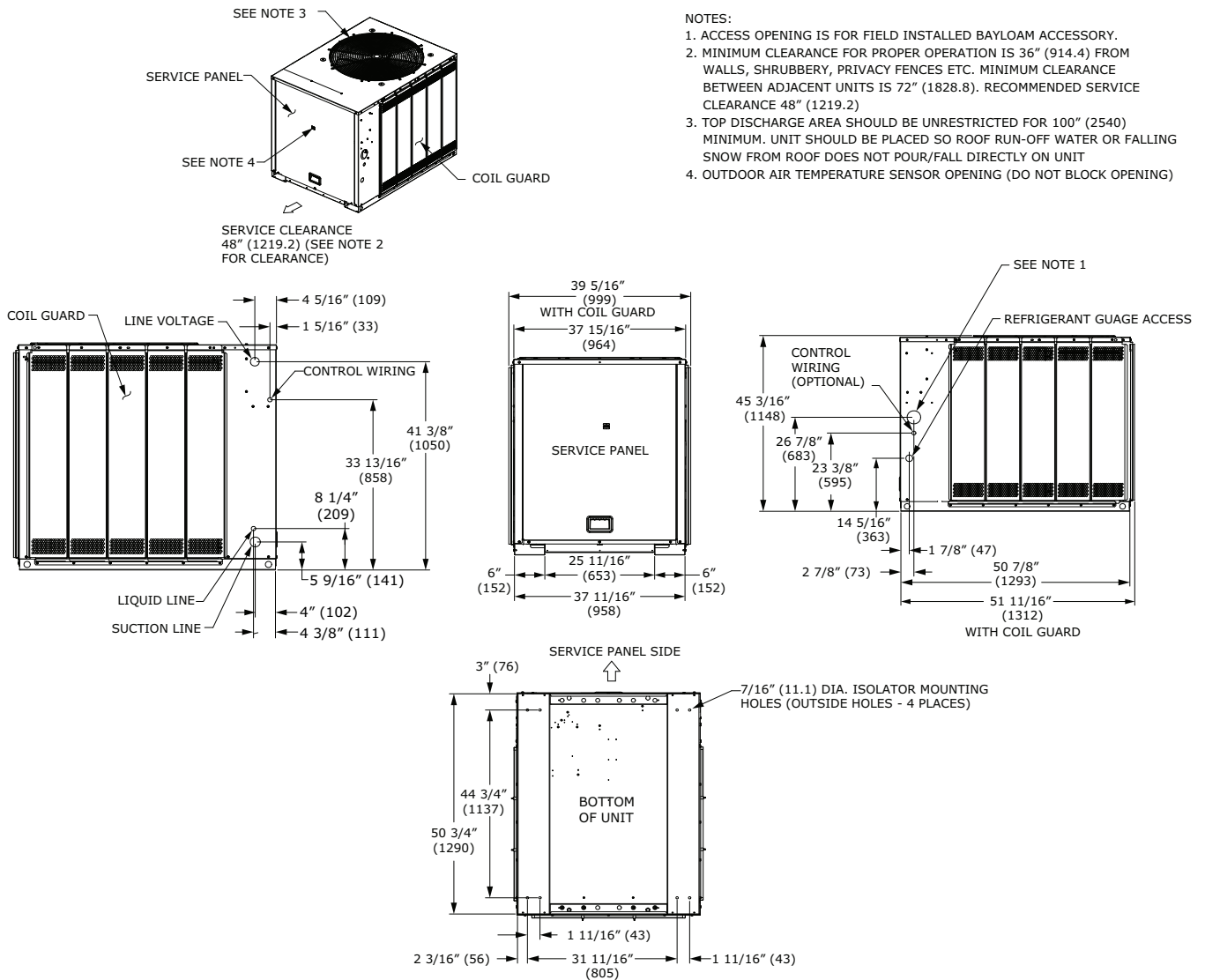


# Dimensional Data

**Figure 25. 5-6.25 ton heat pump, dual compressor – in (mm)**





**Figure 26. 8.33 ton heat pump, single compressor – in (mm)**


**Figure 27. 8.33 ton heat pump, dual compressor – in (mm)**

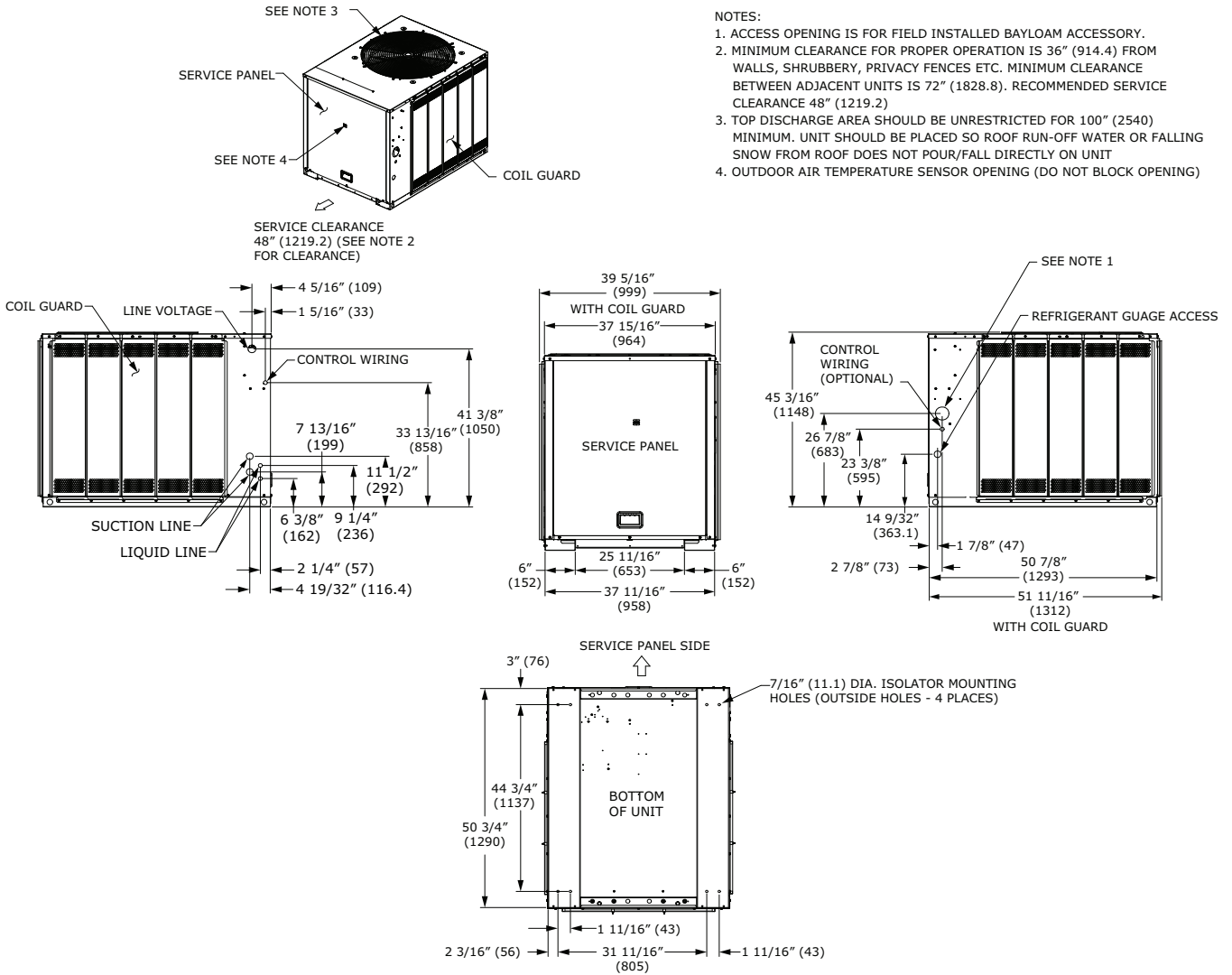
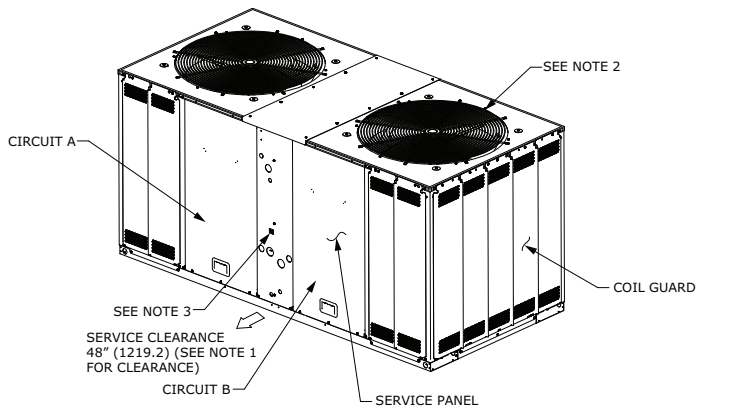
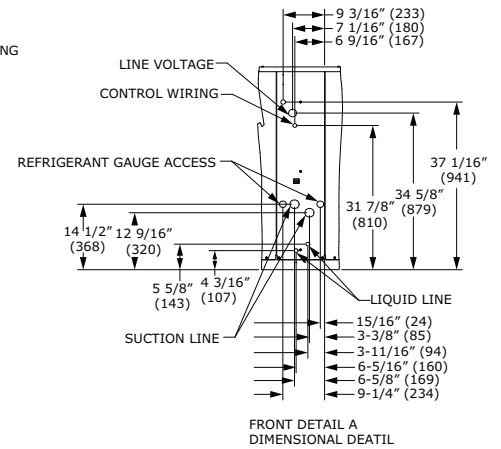
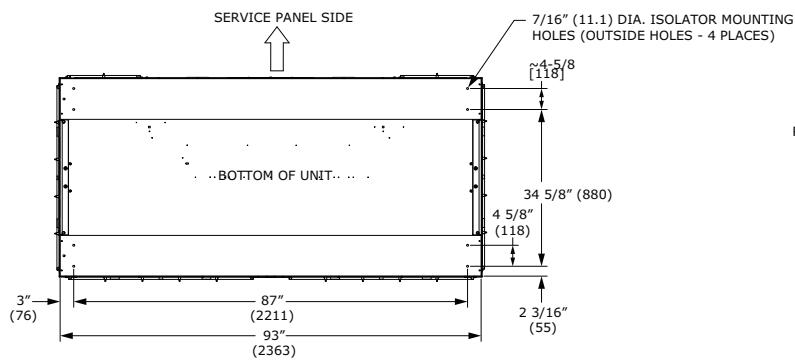
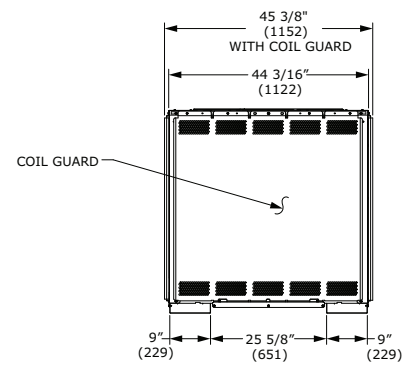
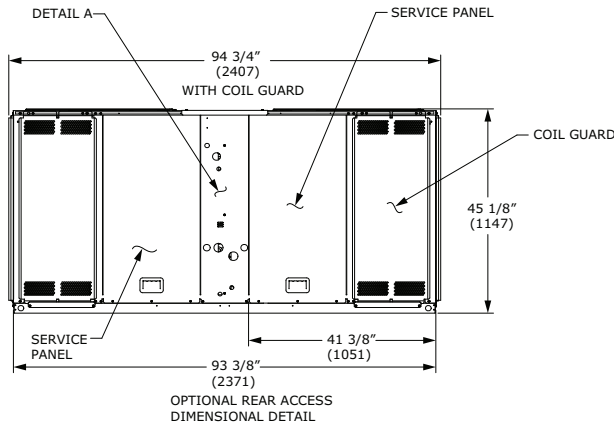


Figure 28. 13, 16.7 ton heat pump, dual compressor – in (mm)



NOTES:

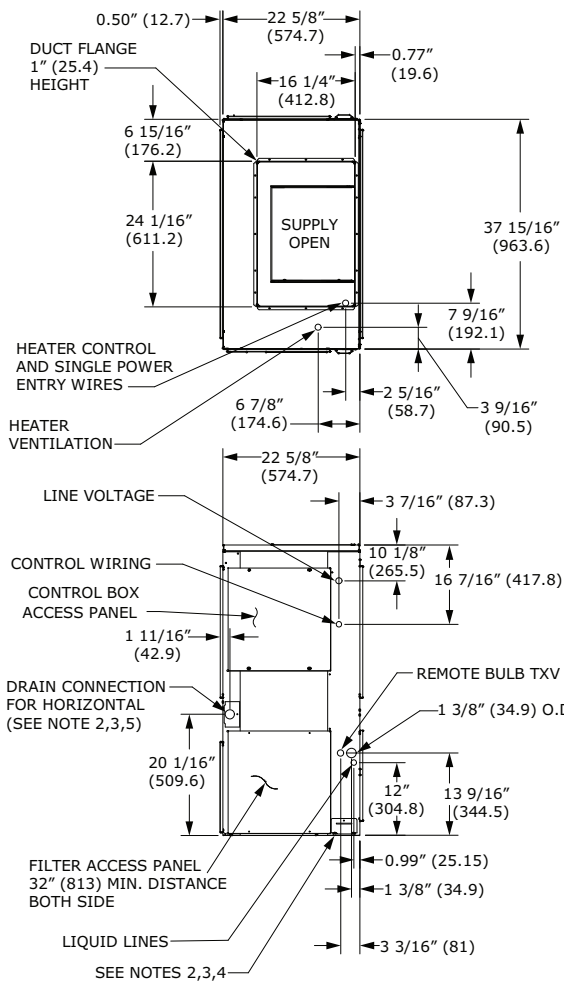
1. MINIMUM CLEARANCE FOR PROPER OPERATION IS 36" (914.4) FROM WALLS, SHRUBBERY, PRIVACY FENCES ETC. MINIMUM CLEARANCE BETWEEN ADJACENT UNITS IS 72" (1828.8). RECOMMENDED SERVICE CLEARANCE 48" (1219.2)
2. TOP DISCHARGE AREA SHOULD BE UNRESTRICTED FOR 100" (2540) MINIMUM. UNIT SHOULD BE PLACED SO ROOF RUN-OFF WATER OR FALLING SNOW FROM ROOF DOES NOT POUR/FALL DIRECTLY ON UNIT
3. OUTDOOR AIR TEMPERATURE SENSOR OPENING (DO NOT BLOCK OPENING)



# Air Handler

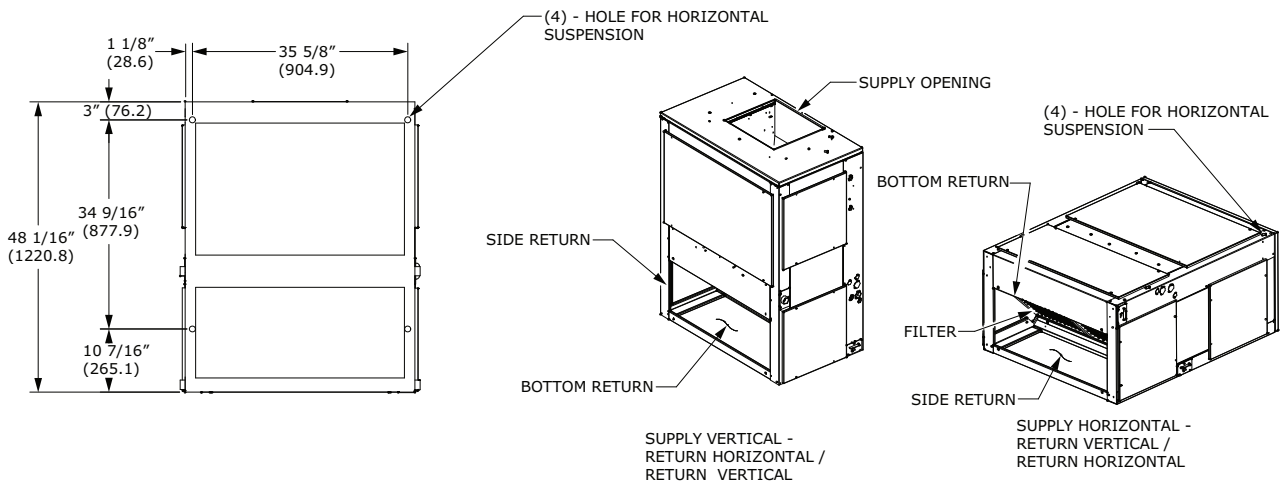
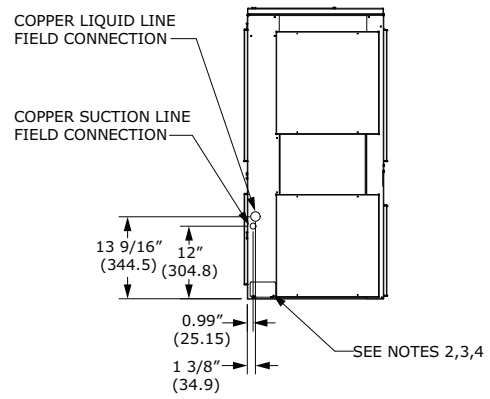
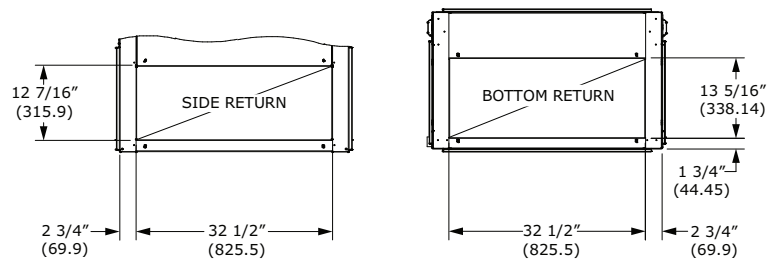
**Figure 29. 4.6 ton air handler, single circuit – in. (mm)**

*Note: Duct flange is a field-installed accessory.*



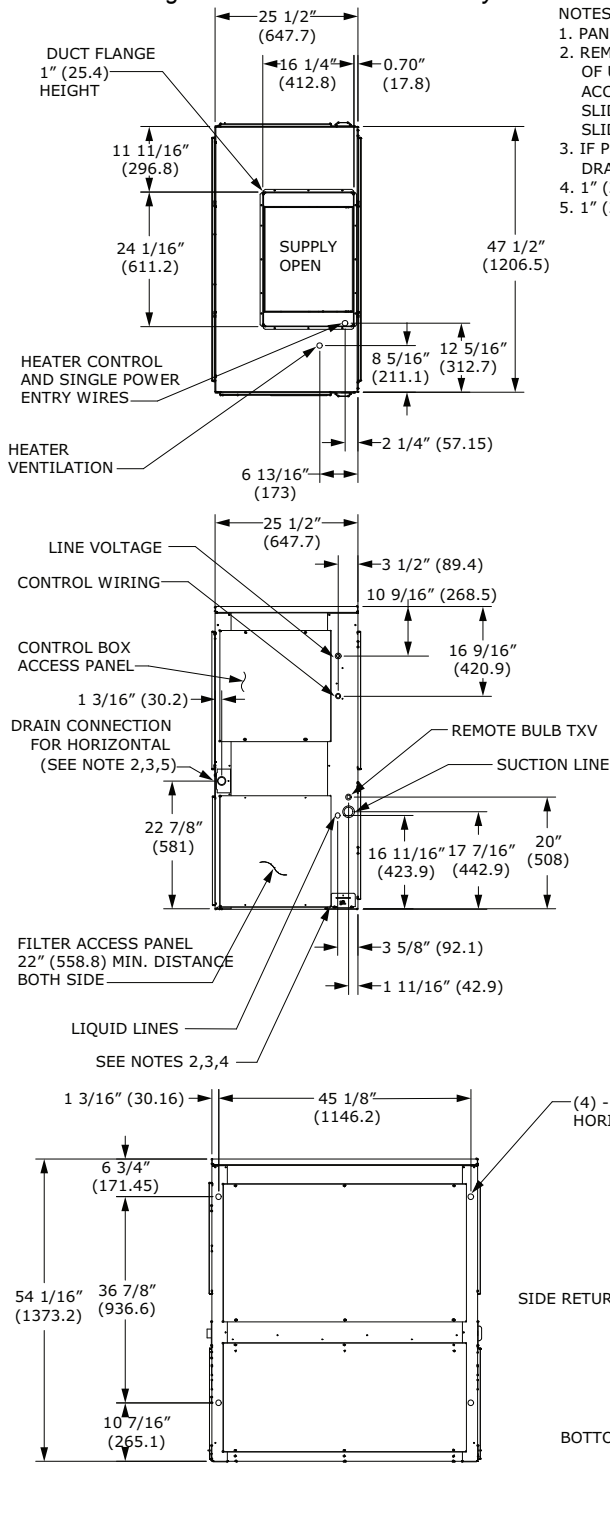
**NOTES:**

1. PANEL DEPTH 1/2" (12.7) (TYP. ALL PANELS).
2. REMOVABLE DRAIN PAN AND ATTACHED DRAIN CONNECTION MAY BE INSTALLED ON END OF UNIT IN EITHER THE VERTICAL OR HORIZONTAL CONFIGURATION, PLASTIC DRAIN PAN ACCESS PLATE ON THE END OF UNIT OPPOSITE DRAIN CONNECTION MUST BE REMOVED TO SLIDE DRAIN PAN OUT OF UNIT FOR CLEANING. ACCESS PLATE MUST BE RE-INSTALLED AFTER SLIDING DRAIN PAN BACK INTO UNIT.
3. IF PERIODIC DRAIN PAN CLEANING IS REQUIRED, ALLOW ROOM FOR PARTIAL REMOVAL OF DRAIN PAN CONNECTION AT END OF UNIT.
4. 1" (25.4) FEMALE SCHED. 40 (10.2) PVC PIPE DRAIN CONNECTION VERTICAL CONFIGURATION.
5. 1" (25.4) FEMALE SCHED. 40 (10.2) PVC PIPE DRAIN CONNECTION HORIZONTAL CONFIGURATION.



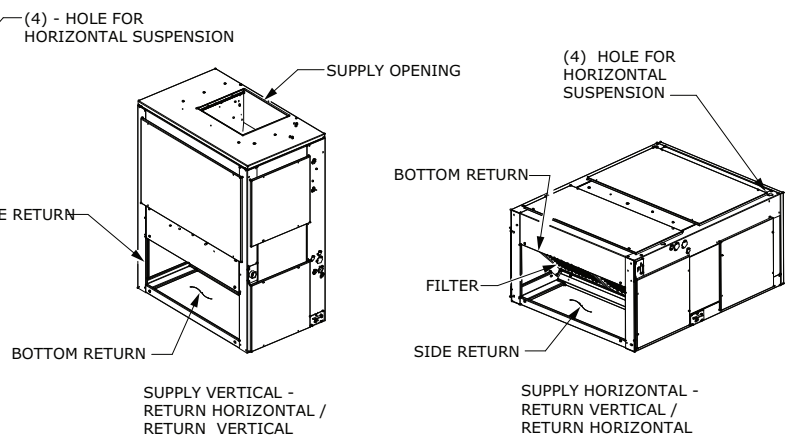
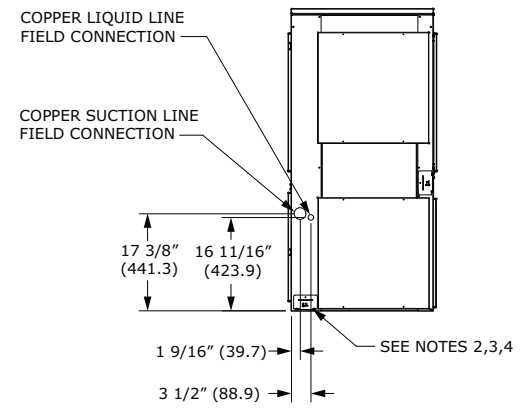
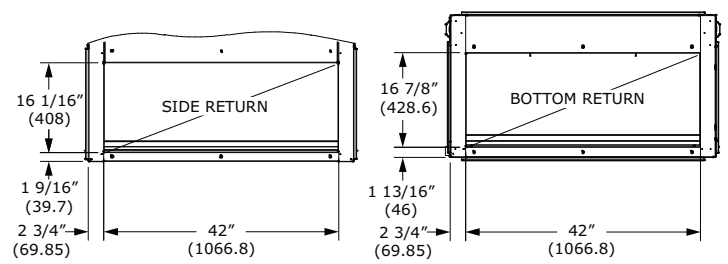
**Figure 30. 6.25 ton air handler, single circuit – in. (mm)**

**Note: Duct flange is a field-installed accessory.**



**NOTES:**

1. PANEL DEPTH 1/2" (12.7) (TYP. ALL PANELS).
2. REMOVABLE DRAIN PAN AND ATTACHED DRAIN CONNECTION MAY BE INSTALLED ON END OF UNIT IN EITHER THE VERTICAL OR HORIZONTAL CONFIGURATION, PLASTIC DRAIN PAN ACCESS PLATE ON THE END OF UNIT OPPOSITE DRAIN CONNECTION MUST BE REMOVED TO SLIDE DRAIN PAN OUT OF UNIT FOR CLEANING. ACCESS PLATE MUST BE RE-INSTALLED AFTER SLIDING DRAIN PAN BACK INTO UNIT.
3. IF PERIODIC DRAIN PAN CLEANING IS REQUIRED, ALLOW ROOM FOR PARTIAL REMOVAL OF DRAIN PAN CONNECTION AT END OF UNIT.
4. 1" (25.4) FEMALE SCHED. 40 (10.2) PVC PIPE DRAIN CONNECTION VERTICAL CONFIGURATION.
5. 1" (25.4) FEMALE SCHED. 40 (10.2) PVC PIPE DRAIN CONNECTION HORIZONTAL CONFIGURATION.



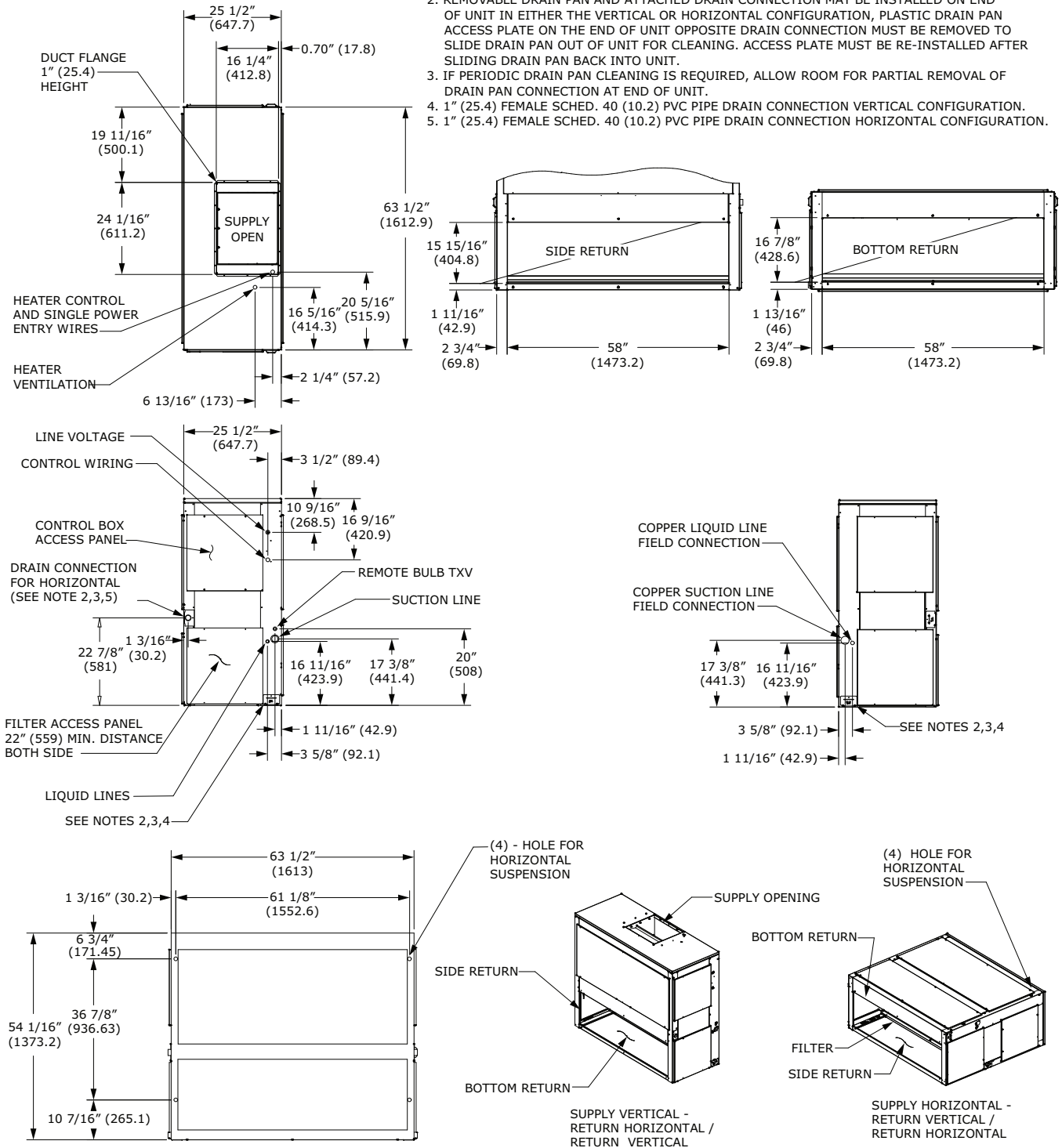
# Dimensional Data

**Figure 31. 8.33 ton air handler, single circuit – in. (mm)**

*Note: Duct flange is a field-installed accessory.*

**NOTES:**

1. PANEL DEPTH 1/2" (12.7) (TYP. ALL PANELS).
2. REMOVABLE DRAIN PAN AND ATTACHED DRAIN CONNECTION MAY BE INSTALLED ON END OF UNIT IN EITHER THE VERTICAL OR HORIZONTAL CONFIGURATION, PLASTIC DRAIN PAN ACCESS PLATE ON THE END OF UNIT OPPOSITE DRAIN CONNECTION MUST BE REMOVED TO SLIDE DRAIN PAN OUT OF UNIT FOR CLEANING. ACCESS PLATE MUST BE RE-INSTALLED AFTER SLIDING DRAIN PAN BACK INTO UNIT.
3. IF PERIODIC DRAIN PAN CLEANING IS REQUIRED, ALLOW ROOM FOR PARTIAL REMOVAL OF DRAIN PAN CONNECTION AT END OF UNIT.
4. 1" (25.4) FEMALE SCHED. 40 (10.2) PVC PIPE DRAIN CONNECTION VERTICAL CONFIGURATION.
5. 1" (25.4) FEMALE SCHED. 40 (10.2) PVC PIPE DRAIN CONNECTION HORIZONTAL CONFIGURATION.

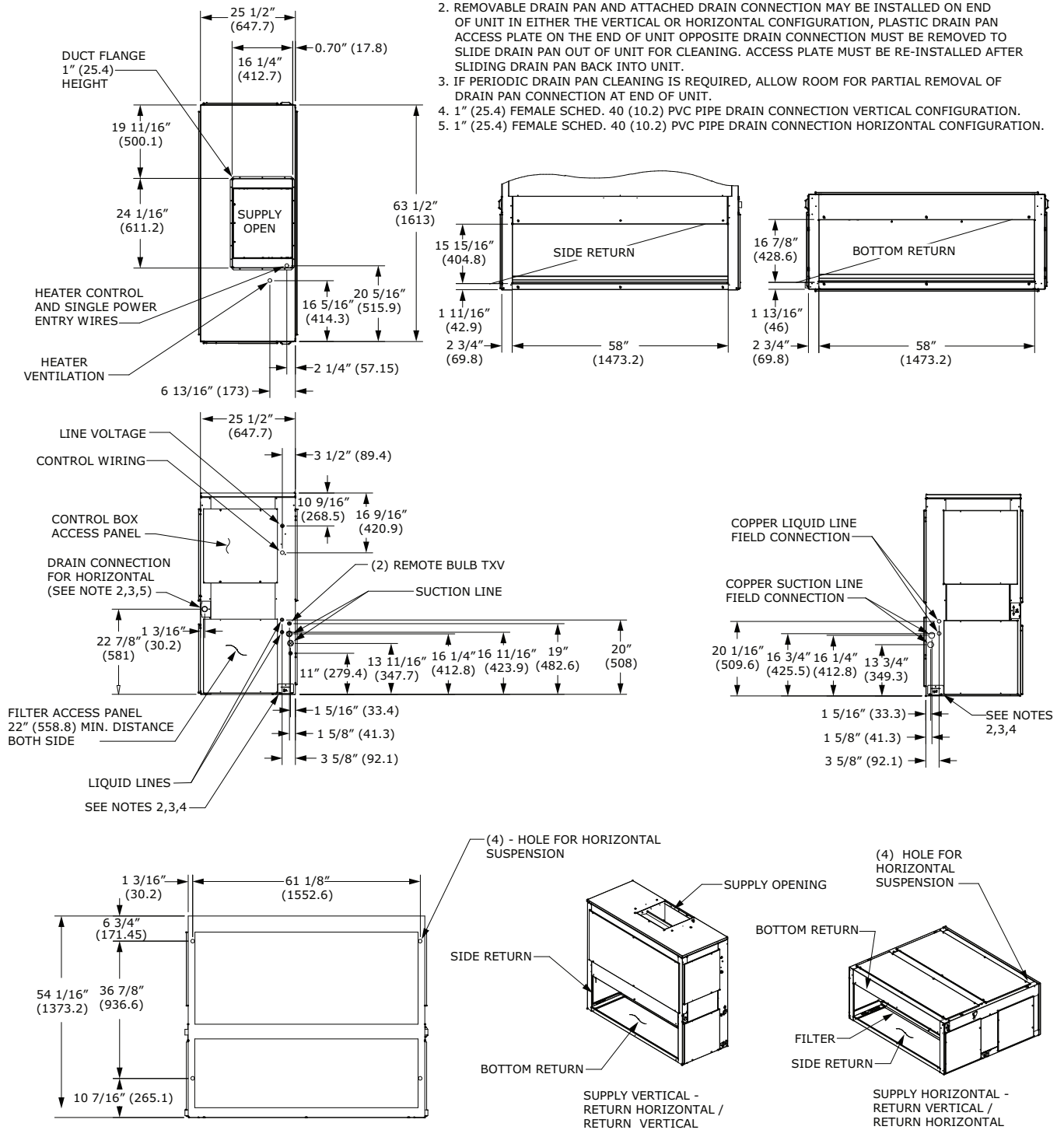


**Figure 32. 8.33 ton air handler, dual circuit – in. (mm)**

*Note: Duct flange is a field-installed accessory.*

NOTES:

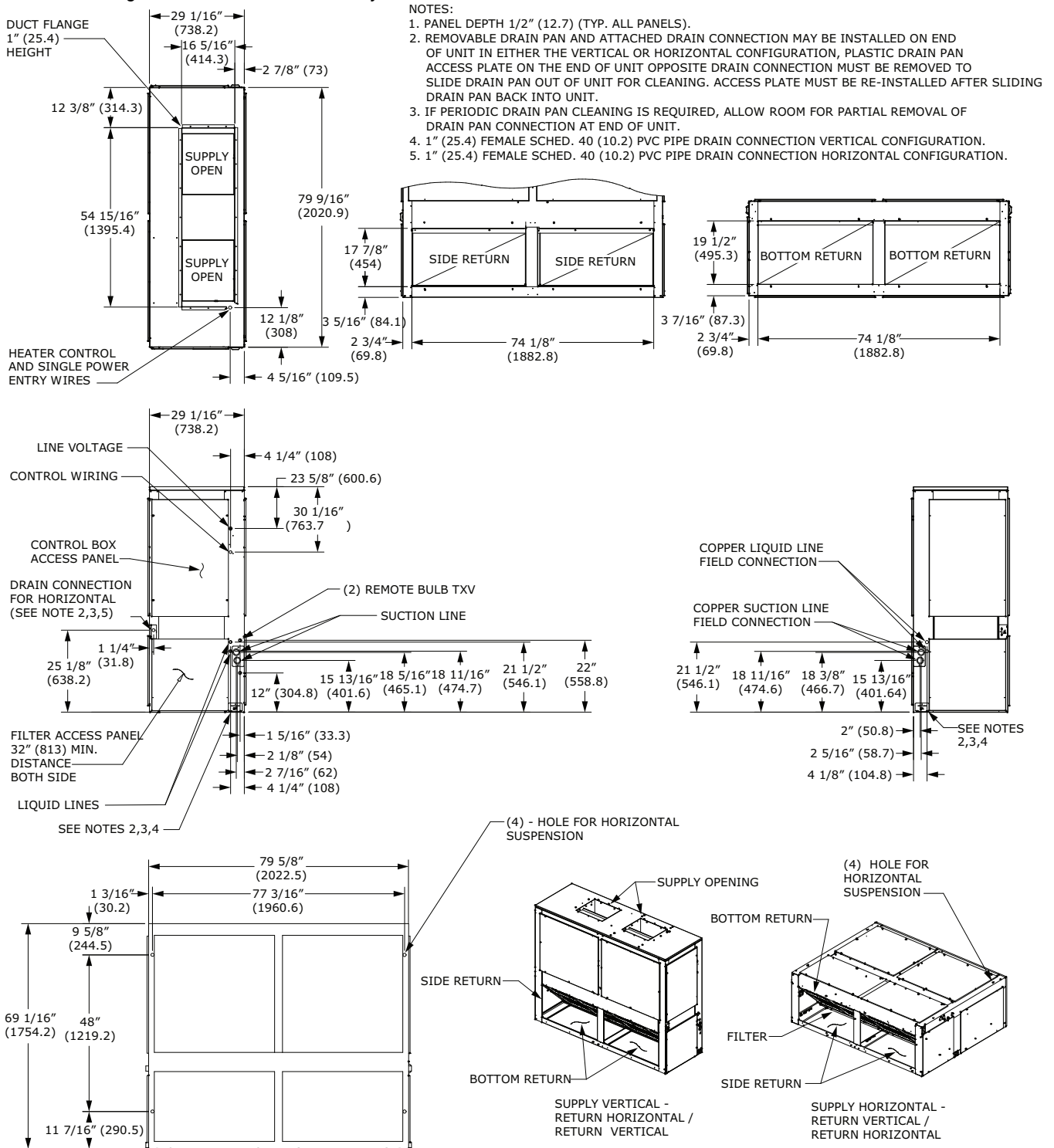
1. PANEL DEPTH 1/2" (12.7) (TYP. ALL PANELS).
2. REMOVABLE DRAIN PAN AND ATTACHED DRAIN CONNECTION MAY BE INSTALLED ON END OF UNIT IN EITHER THE VERTICAL OR HORIZONTAL CONFIGURATION, PLASTIC DRAIN PAN ACCESS PLATE ON THE END OF UNIT OPPOSITE DRAIN CONNECTION MUST BE REMOVED TO SLIDE DRAIN PAN OUT OF UNIT FOR CLEANING. ACCESS PLATE MUST BE RE-INSTALLED AFTER SLIDING DRAIN PAN BACK INTO UNIT.
3. IF PERIODIC DRAIN PAN CLEANING IS REQUIRED, ALLOW ROOM FOR PARTIAL REMOVAL OF DRAIN PAN CONNECTION AT END OF UNIT.
4. 1" (25.4) FEMALE SCHED. 40 (10.2) PVC PIPE DRAIN CONNECTION VERTICAL CONFIGURATION.
5. 1" (25.4) FEMALE SCHED. 40 (10.2) PVC PIPE DRAIN CONNECTION HORIZONTAL CONFIGURATION.



# Dimensional Data

**Figure 33. 13 ton air handler, dual circuit – in. (mm)**

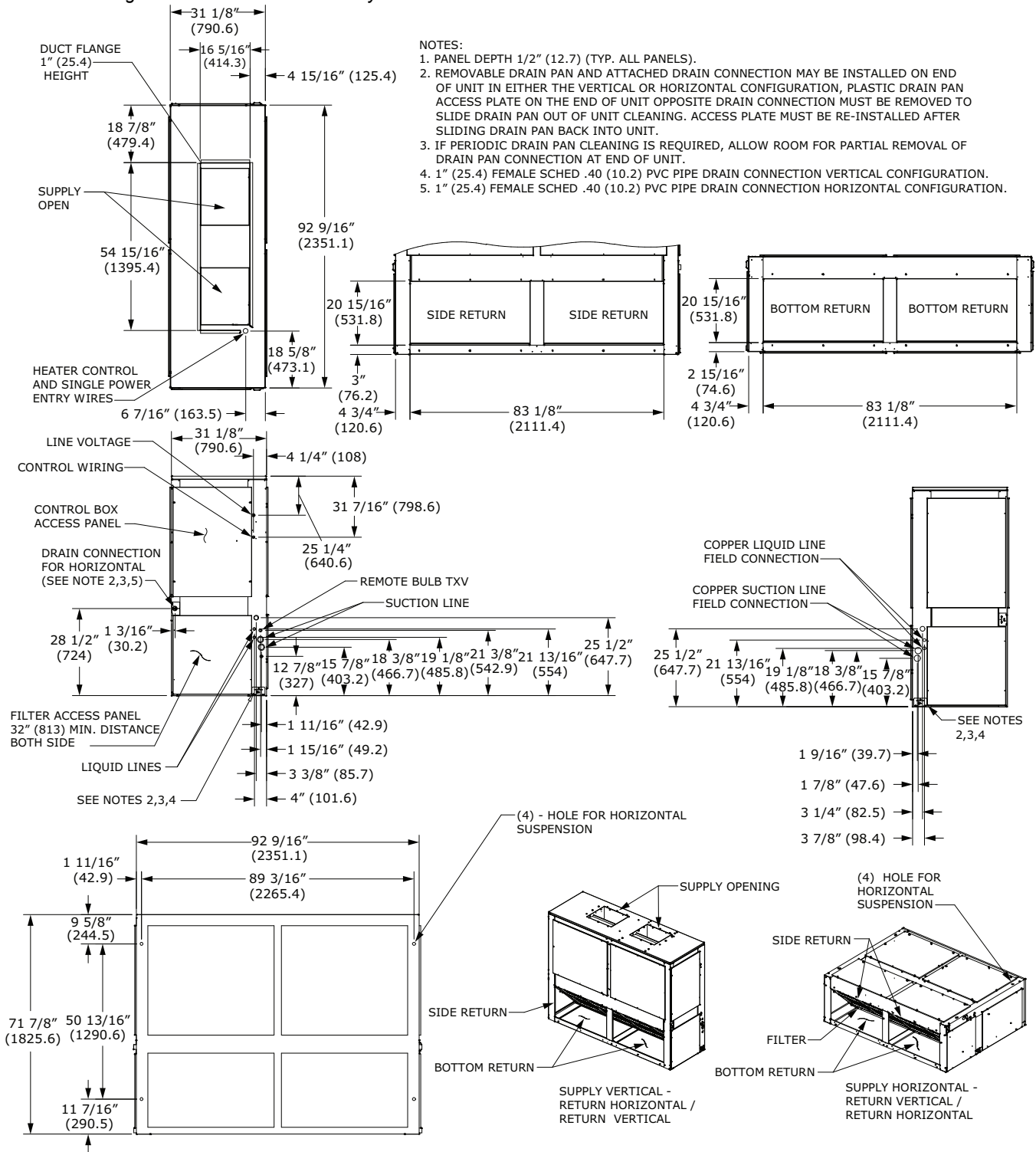
**Note: Duct flange is a field-installed accessory.**





**Figure 34. 16.7 ton air handler, dual circuit – in. (mm)**

**Note:** Duct flange is a field-installed accessory.



## Accessories

Figure 35. Rubber isolator accessory dimensions

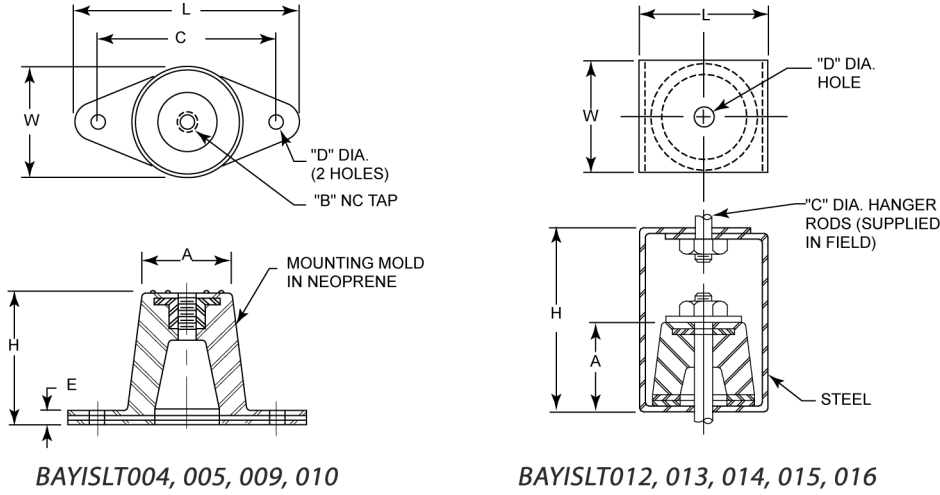


Table 82. Rubber isolator accessory dimensions – in (mm)

Model No.	L	W	H	A	B	C	D	E
BAYISLT004	3-1/8 (79.375)	1-3/4 (44.45)	1-1/4 (31.75)	1-1/4 (31.75)	3/8 (9.525)	2-3/8 (60.325)	3/8 (9.525)	1/4 (6.35)
BAYISLT005	3-7/8 (98.425)	2-3/8 (60.325)	1-3/4 (44.45)	1-3/4 (44.45)	3/8 (9.525)	3 (76.2)	3/8 (9.525)	1/4 (6.35)
BAYISLT009	3-7/8 (98.425)	2-3/8 (60.325)	1-3/4 (44.45)	1-3/4 (44.45)	3/8 (9.525)	3 (76.2)	3/8 (9.525)	1/4 (6.35)
BAYISLT010	3-7/8 (98.425)	2-3/8 (60.325)	1-3/4 (44.45)	1-3/4 (44.45)	3/8 (9.525)	3 (76.2)	3/8 (9.525)	1/4 (6.35)
BAYISLT013	2-1/4 (57.15)	2 (50.8)	3 (76.2)	1-3/8 (34.925)	3/4 (19.05)	3/8 (9.525)	1/2 (12.7)	—
BAYISLT014	2-1/4 (57.15)	2 (50.8)	3 (76.2)	1-3/8 (34.925)	3/4 (19.05)	3/8 (9.525)	1/2 (12.7)	—
BAYISLT015	2-1/4 (57.15)	2 (50.8)	3 (76.2)	1-3/8 (34.925)	3/4 (19.05)	3/8 (9.525)	1/2 (12.7)	—
BAYISLT012	3 (76.2)	2-1/4 (57.15)	4-1/2 (114.3)	1-7/8 (47.625)	1/4 (6.35)	5/8 (15.875)	3/4 (19.05)	—
BAYISLT015 <sup>(a)</sup>	3 (76.2)	2-1/4 (57.15)	4-1/2 (114.3)	1-7/8 (47.625)	1/4 (6.35)	5/8 (15.875)	3/4 (19.05)	—
BAYISLT016	3 (76.2)	2-1/4 (57.15)	4-1/2 (114.3)	1-7/8 (47.625)	1/4 (6.35)	5/8 (15.875)	3/4 (19.05)	—

**Note:** BAYISLT015 contains a quantity 2 of the 2-1/4 x 2 x 3 isolators and quantity of 3 of the 3 x 2-1/4 x 4-1/2 isolators.

Figure 36. Spring isolator accessory dimensions – in (mm)

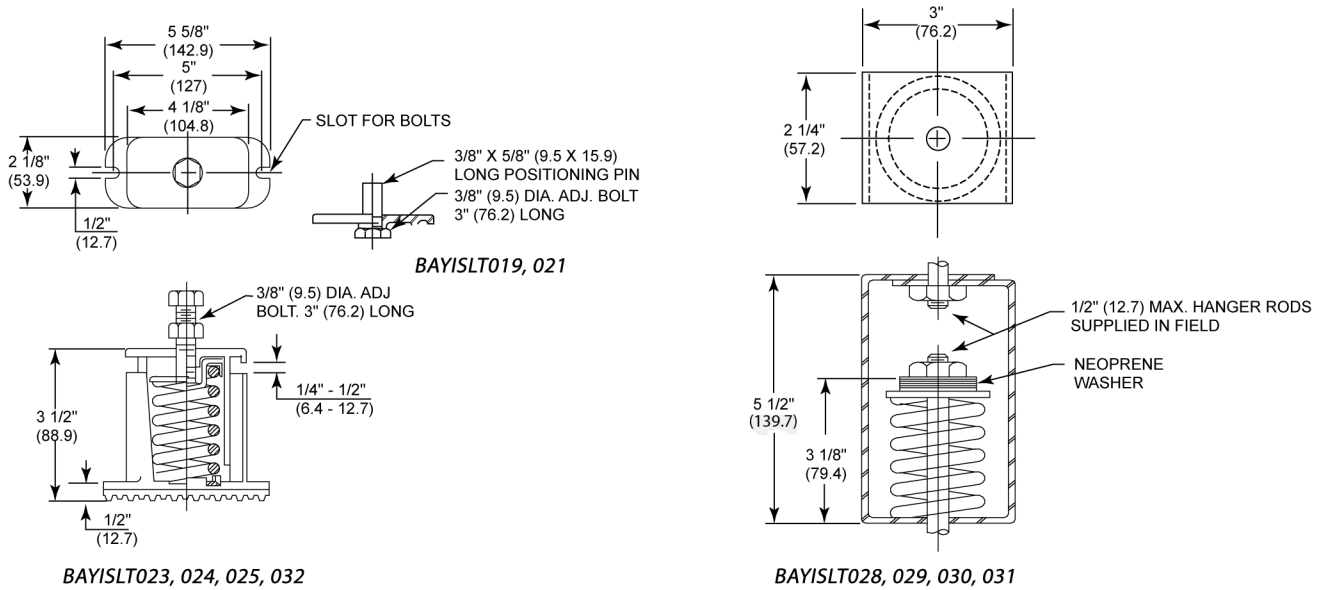
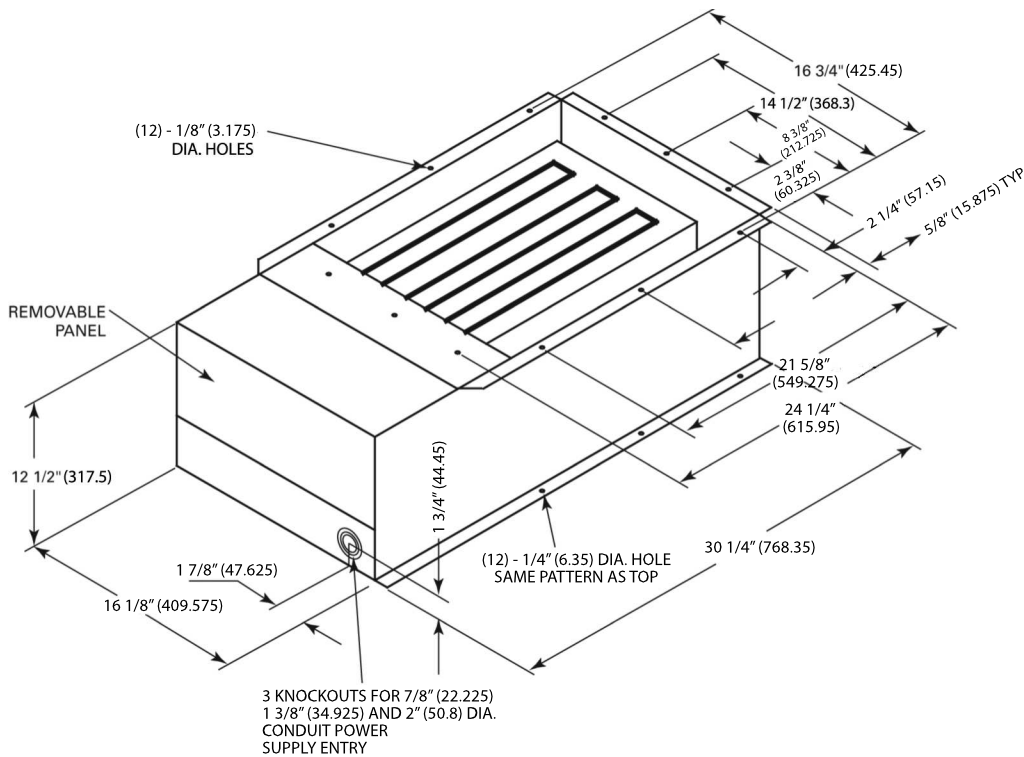


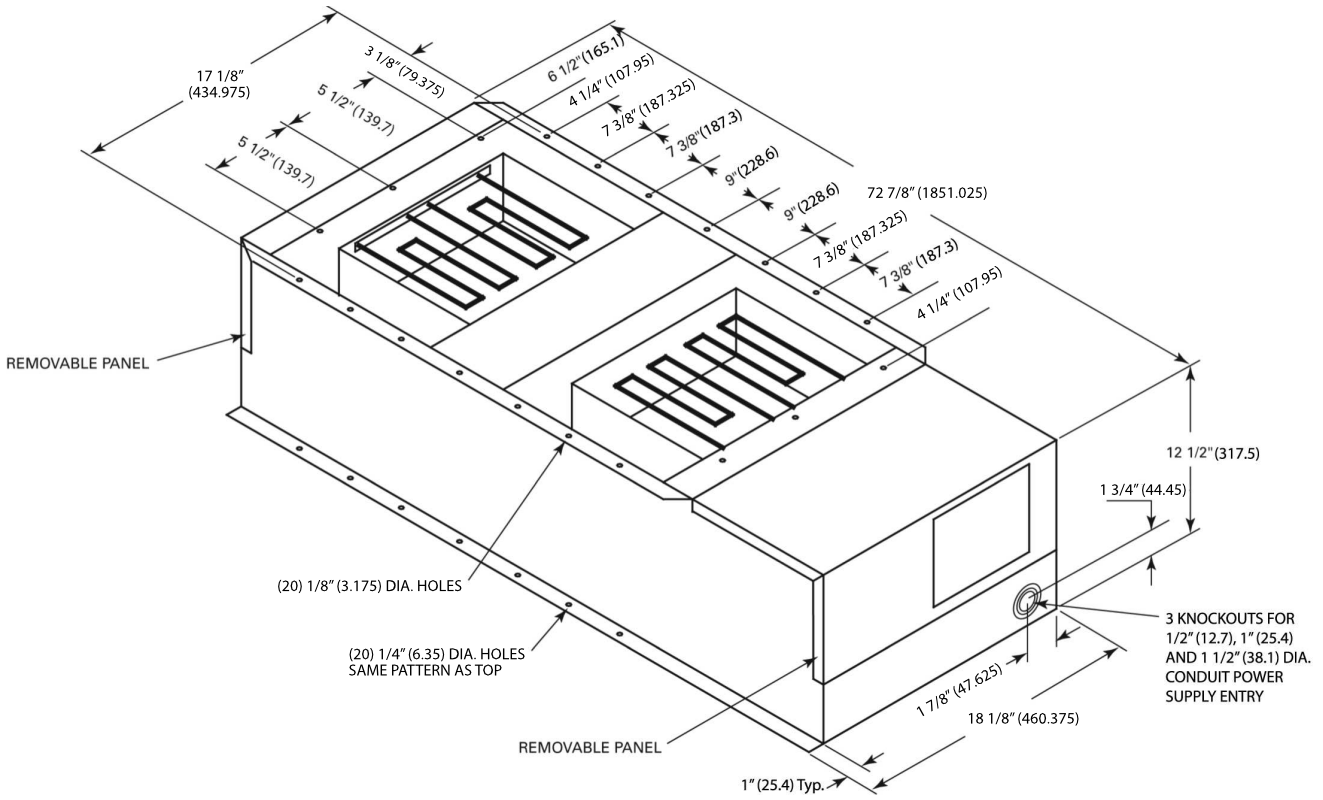
Figure 37. Electric heater accessory for 4.6-8.3 ton air handlers – in (mm)

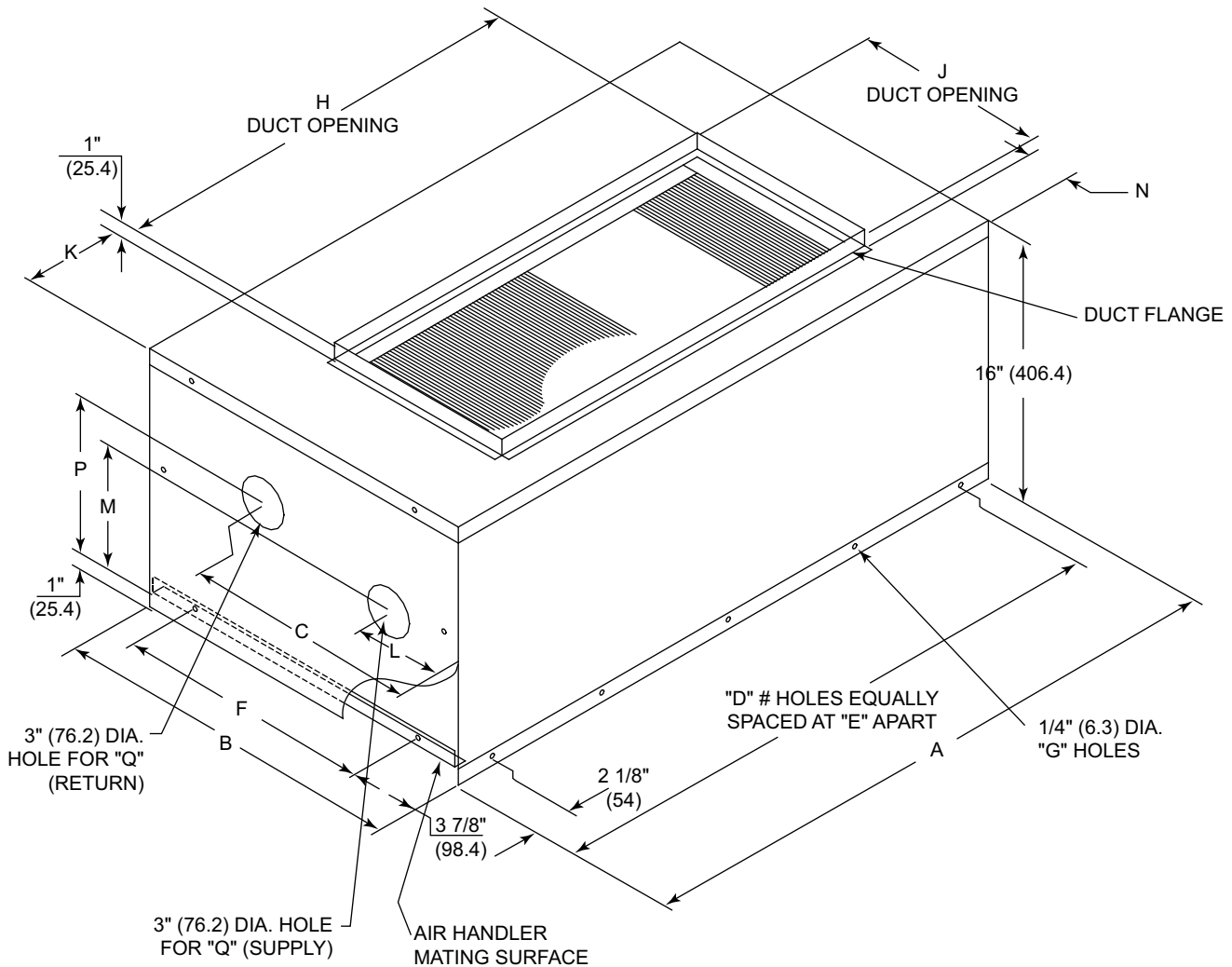




## Dimensional Data

Figure 38. Electric heater accessory for 10.4-16.7 ton air handlers – in (mm)



**Figure 39. Hot water coil accessory – in (mm)**


**Note:** Duct flange available as kit. See accessories chapter for details.

**Table 83. Hot water coil accessory – in (mm)**

Model No.	A	B	C	D	E	F	G	H
BAYWATR027	38.14 (969)	22.74 (576)	13.74 (349)	5 (127)	9 (229)	13.65 (347)	16 (406)	26 (660)
BAYWATR028	47.74 (1213)	25.74 (654)	15.95 (405)	5 (127)	10.84 (275)	17.17 (436)	16 (406)	30 (762)
BAYWATR029	63.84 (1621)	25.74 (654)	15.95 (405)	6 (152)	11.84 (301)	17.16 (436)	18 (457)	36 (914)
BAYWATR030	79.74 (2025)	29.18 (741)	14.36 (365)	8 (203)	10.85 (276)	19.67 (500)	22 (559)	51 (1295)
BAYWATR031	92.74 (2356)	31.24 (793)	16.48 (419)	8 (203)	10.85 (276)	19.67 (500)	22 (559)	64 (1626)
Model No.	J	K	L	M	N	P	Q	
BAYWATR027	12 (305)	6 (152)	4.94 (125)	7.79 (198)	2.88 (73)	10.24 (260)	2 NPT (51) NPTI	
BAYWATR028	18 (457)	8.88 (225)	8.45 (215)	10.27 (261)	2.88 (73)	7.77 (197)	2.5 NPTI (64) NPTI	
BAYWATR029	18 (457)	13.88 (352)	8.45 (215)	10.03 (255)	2.88 (73)	7.58 (192)	2.5 NPTI (64) NPTI	
BAYWATR030	18 (457)	14.25 (362)	6.86 (174)	9.91 (252)	1.88 (48)	7.41 (188)	2.5 NPTI (64) NPTI	

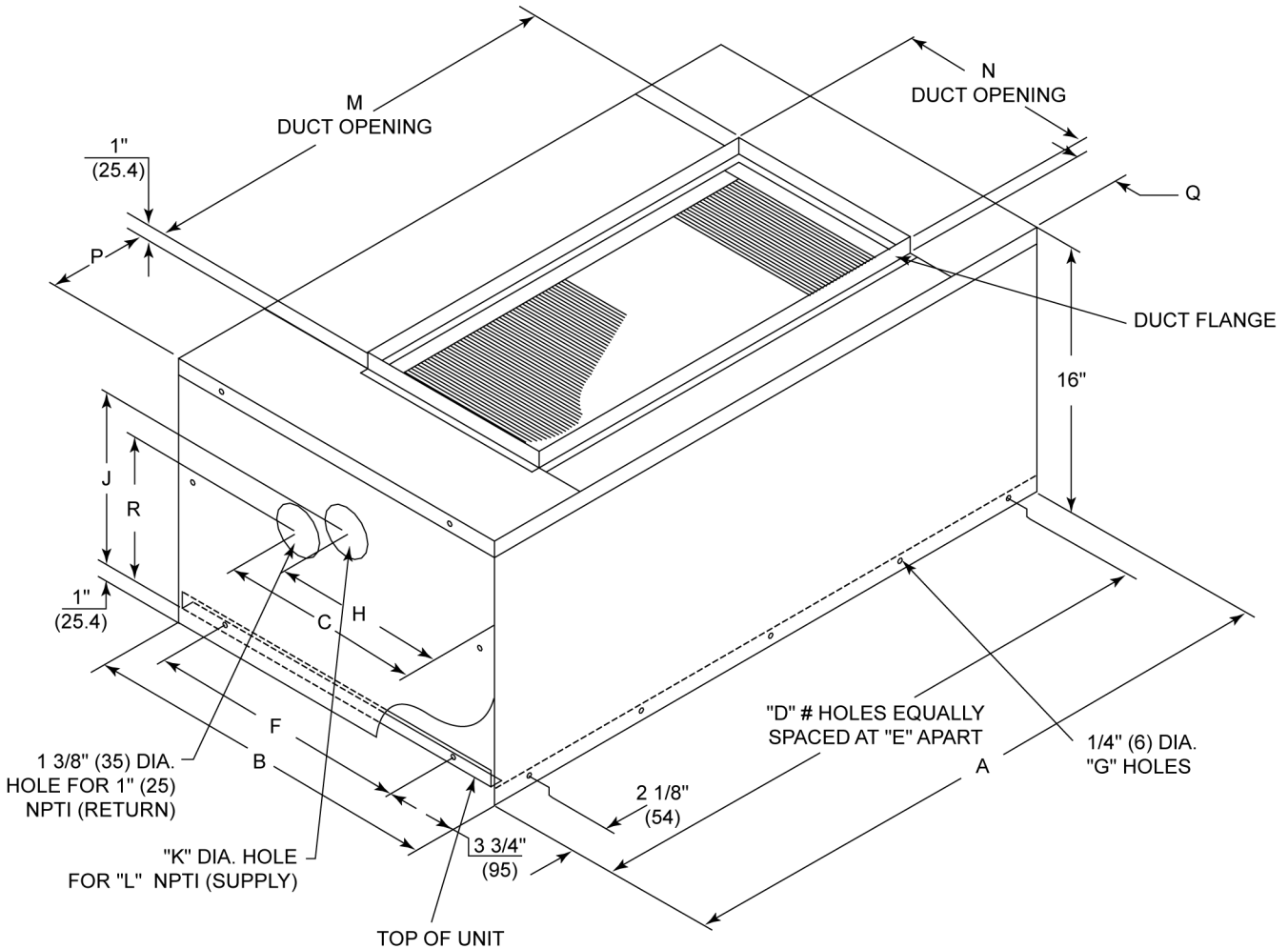
## Dimensional Data

**Table 83. Hot water coil accessory – in (mm) (continued)**

Model No.	J	K	L	M	N	P	Q
BAYWATR031	18 (457)	14.25 (362)	8.98 (228)	9.88 (251)	3.75 (95)	7.38 (187)	2.5 NPTI (64) NPTI

Note: Hot Water Coil Dimensions - inches (millimeters)

**Figure 40. Steam coil accessory – in (mm)**



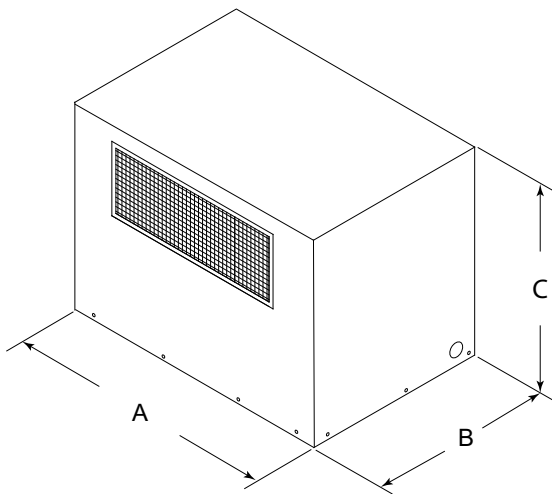
Note: Duct flange available as kit. See accessories chapter for details.

**Table 84. Steam coil accessory – in (mm)**

Model No.	A	B	C	D	E	F	G	H	J	K
BAYWATR022	38.14 (969)	22.74 (577)	14.32 (364)	5 (127)	9 (229)	13.67 (347)	16 (406)	10.88 (276)	11.17 (284)	2 (51)
BAYWATR023	47.74 (1212)	25.74 (654)	20.14 (511)	5 (127)	10.84 (275)	17.17 (436)	16 (406)	10.88 (276)	11.17 (284)	2 (51)
BAYWATR024	63.84 (1621)	25.74 (654)	20.14 (511)	6 (152)	11.87 (301)	17.16 (436)	18 (457)	13.70 (348)	10.57 (268)	2.5 (64)
BAYWATR025	79.74 (2025)	29.18 (741)	18.55 (471)	8 (203)	10.85 (275)	19.67 (500)	22 (559)	12.11 (308)	10.05 (255)	2.5 (64)
BAYWATR026	92.74 (2355)	31.24 (793)	20.67 (525)	8 (203)	10.85 (275)	19.67 (500)	22 (559)	14.23 (361)	10.01 (254)	2.5 (64)

**Table 84. Steam coil accessory – in (mm) (continued)**

Model No.	L	M	N	P	Q	R
BAYWATR022	1.5 (38)	26 (660)	12 (305)	6 (152)	2.87 (73)	9.95 (253)
BAYWATR023	2 (51)	30 (762)	18 (457)	8.87 (225)	2.87 (73)	9.95 (253)
BAYWATR024	2 (51)	36 (914)	18 (457)	13.87 (352)	2.87 (73)	9.13 (232)
BAYWATR025	2 (51)	51 (1295)	18 (457)	14.12 (359)	1.87 (48)	8.61 (219)
BAYWATR026	2 (51)	64 (1626)	18 (457)	14.12 (359)	3.75 (95)	8.58 (218)

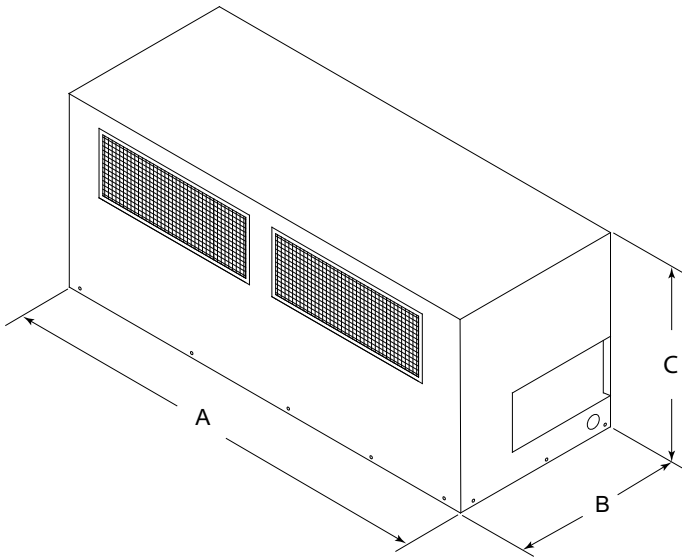
**Figure 41. Discharge plenum and grille accessory**

**Table 85. Discharge plenum and grille dimensions – no heat – in (mm)**

Unit	Model No. <sup>(a)</sup>	A	B	C
TWE051	BAYPLNM015	37.94 (963.6)	21.94 (557.2)	28 (711.2)
TWE072, TWE076	BAYPLNM016	47.5 (1206.5)	24.99 (634.7)	28 (711.2)
TWE101	BAYPLNM017	63.5 (1612.9)	24.99 (634.7)	28 (711.2)
TWE156	BAYPLNM018 <sup>(b)</sup>	79.5 (2019.3)	27.63 (701.8)	22 (558.8)
TWE201	BAYPLNM019 <sup>(b)</sup>	92.5 (2349.5)	30.43 (772.9)	24 (609.6)

<sup>(a)</sup> When installed horizontally, plenum/water coil must be self-supported.

<sup>(b)</sup> For use with hydronic heat or no heat.

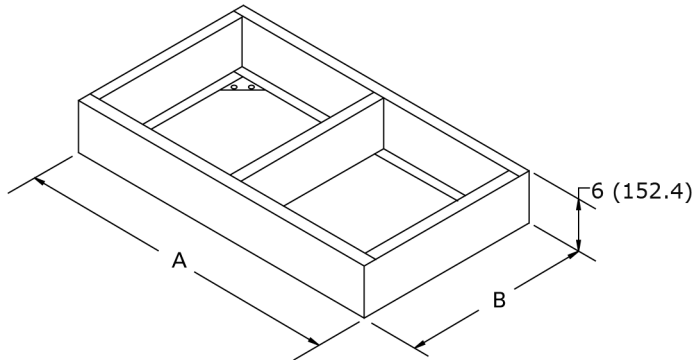
**Figure 42. Discharge plenum and grille accessory**



**Table 86. Discharge plenum and grille dimensions (for use with electric heat) – in (mm)**

Tons	Model No.	A	B	C
TWE051	BAYPLNM030	38.07 (967)	22.69 (576.3)	29.05 (738)
TWE072, TWE076	BAYPLNM031	47.86 (1216)	25.69 (652.5)	29.05 (738)
TWE101	BAYPLNM032	63.86 (1622)	25.69 (652.5)	29.05 (738)
TWE156	BAYPLNM033	80.14 (2036)	29.10 (739.1)	35.11 (892)
TWE201	BAYPLNM034	92.96 (2361)	31.10 (789.9)	35.05 (890)

**Figure 43. Subbase accessory – in (mm)**



**Table 87. Subbase dimensions – in (mm)**

Tons	Model No.	A	B
TWE051	BAYBASE009	38 (965.2)	22.63 (574.8)
TWE072, TWE076	BAYBASE010	47.5 (1206.5)	25.51 (648.0)
TWE101	BAYBASE011	63.5 (1612.9)	25.52 (648.2)
TWE156	BAYBASE012	79.5 (2019.3)	29.04 (737.6)
TWE201	BAYBASE013	92.5 (2349.5)	31.14 (791.0)





# Weights

## Heat Pump Condenser

Table 88. TWA R-410A unit and corner weights — kg (50 Hz)

Tons	Model No.	Shipping Max (kg)	Net Max (kg)	Corner Weights			
				1	2	3	4
5	TWA0604DA	163	146	42	42	31	31
	TWA0604DD	185	164	47	42	39	36
6.25	TWA0764DA	173	156	41	50	30	35
	TWA0764DD	209	188	53	51	43	41
8.33	TWA1014DA	224	203	51	60	42	50
	TWA1014DD	215	194	56	54	43	41
13	TWA1564DD	395	349	103	102	72	72
16.7	TWA2014DD	453	407	121	120	83	83

Figure 44. TWA060, 076, 101

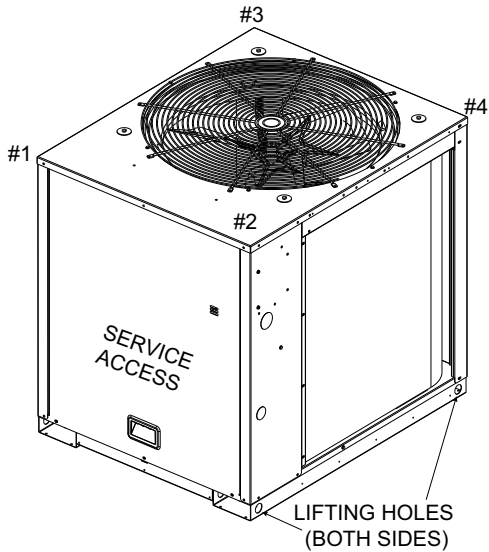
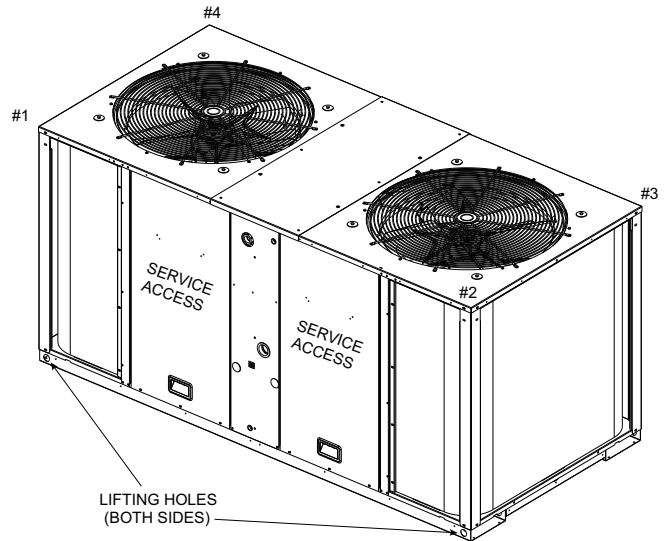


Figure 45. TWA156, 201





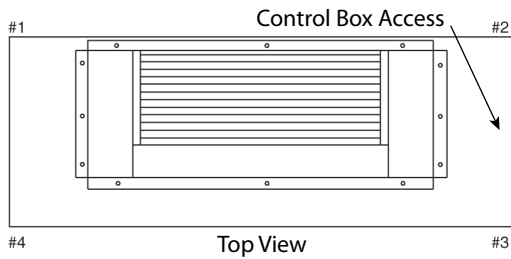
# Weights

## Air Handler

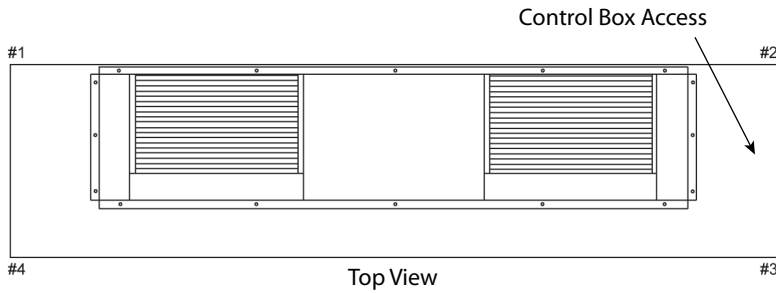
**Table 89. Constant volume air handler (TWE) — unit and corner weights - (50 Hz)**

Tons	Model Number	Shipping Max (lbs)	Net Max (lbs)	Corner Weights - Vertical				Corner Weights - Horizontal			
				1	2	3	4	1	2	3	4
4.6	TWE0514DA	285	232	55	71	51	55	54	67	50	61
6	TWE0724DB	385	323	67	99	75	82	56	92	87	88
6.25	TWE0764DA/B	385	323	67	99	75	82	56	92	87	88
8.33	TWE1014DA/B	441	393	77	121	110	85	79	118	77	119
13	TWE1564DB	752	675	167	192	181	135	196	163	145	171
16.7	TWE2014DB	912	818	258	168	161	231	256	181	146	235

**Figure 46. Vertical — TWE051, 072, 076, 101**



**Figure 47. Vertical — TWE156, 201**



**Figure 48. Horizontal — TWE051, 072, 076, 101**

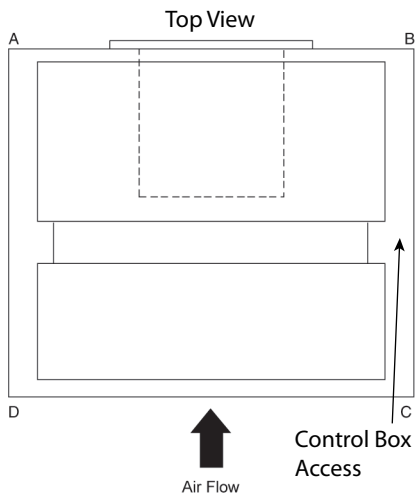
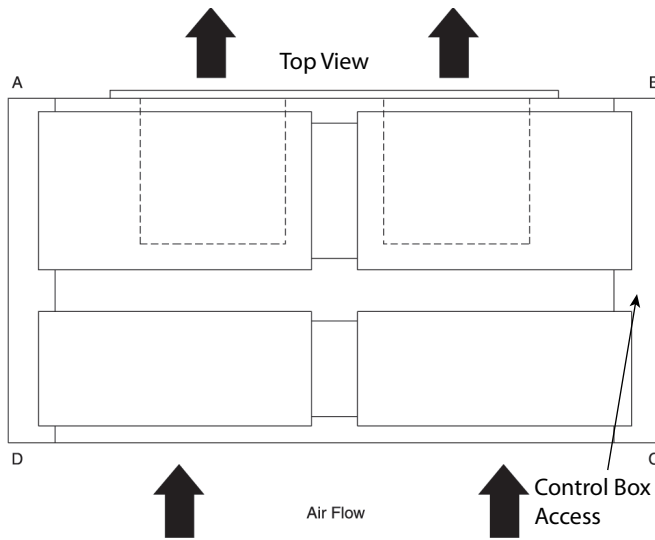


Figure 49. Horizontal — TWE156, 201



### Accessories

Table 90. Accessory weights (net lbs.)

Unit Used w/ Tons	Hot Water Coil	Steam Coil	Discharge Plenum and Grille with Hydronic Heat	Discharge Plenum and Grille without Heat	Discharge Plenum and Grille with Electric Heat	Return Air Grille	Electric Heat Min/Max	Subbase	Oversized Motor	RIS Isolator Floor Mount
5	86	94	63	58	115	3	32/43	14.4	31	2
6.25	116	131	78	73	160	5	27/45	19.4	48	2
8.33	165	148	97	92	195	7	27/45	23.5	50	2
13	211	234	—	230	235	10	79/100	28.4	80	2
16.7	242	261	—	145	265	12	79/100	31.7	88	2
Unit Used w/ Tons	RIS Isolator Suspended Mount	Steel Spring Isolator Floor Mount	Steel Spring Isolator Suspended Mount	Hail Guard	Control Transformer	Sensors	Expansion Module	Low Ambient	Service Valve	
5	9	12	6	21	4	—	13	13	5	
6.25	6	12	6	21	4	—	13	13	5	
8.33	7	12	6	28	4	—	13	13	5	
13	7	12	6	55	4	—	2	2	5	
16.7	9	12	6	55	4	—	2	2	5	



# Mechanical Specifications

## Condensing Units

### Standard Features

#### General

- Weatherproofed steel mounting/lifting rails
- Hermetic scroll compressors
- Plate fin condenser coils
- Fans and motors
- Standard operating range 50-125°F (min. 0°F with low ambient accessory)
- Nitrogen holding charge

#### Casing

- Zinc coated, heavy gauge, galvanized steel
- Weather resistant baked enamel finish
- Meets ASTM B117, 672 hour salt spray test
- Removable single side maintenance access panels
- Lifting handles in maintenance access panels
- Unit base provisions for forklift and/or crane lifting

#### Refrigeration System - Single Compressor (TWA060\*\*A, TWA076\*\*A, TWA101\*\*A)

- Single refrigeration circuit with integral subcooling circuit
- Single direct drive hermetic scroll compressor
- Suction gas-cooled motor w/  $\pm 10\%$  voltage utilization range of unit nameplate voltage
- Reversing valve
- Crankcase heater
- Internal temperature and current sensitive motor overloads
- No compressor suction and/or discharge valves (reduced vibration/sound)
- Factory installed liquid line filter drier
- Phase loss/reverse rotation monitor
- External high pressure cutout device
- External low pressure cutout device
- Evaporator defrost control
- Loss of charge protection (discharge temperature limit)

#### Refrigeration System - Dual Compressor (TWA060\*\*D, TWA076\*\*D, TWA101\*\*D, TWA156\*\*D, TWA201\*\*D)

- Two (2) separate and independent refrigerant circuits
- Each refrigeration circuit equipped with integral subcooling circuit
- Two (2) direct drive hermetic scroll compressor
- Suction gas-cooled motors w/  $\pm 10\%$  voltage utilization range of unit nameplate voltage
- Reversing valves
- Crankcase Heaters
- Internal temperature and current sensitive motor overloads
- Factory installed liquid line filter driers
- Phase loss/reverse rotation monitor
- No compressor suction and/or discharge valves (reduced vibration/sound)
- External high pressure cutout devices
- External low pressure cutout devices
- Evaporator defrost control
- Loss of charge protection (discharge temperature limits)

**Condenser Coil (Fin and Tube)**

- 3/8-inch internally enhanced copper tube
- Mechanically bonded to lanced aluminum plate fins
- Factory pressure and leak tested to 660 psig
- Perforated steel hail guards available (factory installed option or field installed accessory)

**Condenser Fan**

- 26-inch or 28-inch propeller fan(s)
- Direct drive
- Statically and dynamically balanced

**Condenser Motor(s)**

- Permanently lubricated totally enclosed or open construction
- Built-in current and thermal overloads
- Ball or sleeve bearing type

**Controls**

- Centralized microprocessor
- Indoor and outdoor temperature sensors drive algorithms, making decisions for all heating, cooling, and ventilation
- Integrated anti-short cycle timer
- Integrated time delay between compressors
- Completely internally wired
- Colored and keyed connectors and colored wires
- Contactor pressure lugs or terminal block
- Unit external mounting location for disconnect device
- Single point power entry

**Coil Guards**

- Condenser coil protection from hail, vandals, etc.
- Perforated, painted galvanized steel
- Factory installed

**Factory Installed Options****Black Epoxy Coated Condenser Coil (Fin and Tube)**

- Thermoset vinyl coating
- Bonded to aluminum fin stock (prior to fin-stamping process)
- Economical protectant in mildly corrosive environments

**BACnet Communication Options**

- BACnet MS/TP -BACnet IP
- Allows unit communication with Trane or generic BACnet building automation controls

**Advanced Diagnostics and LonTalk Communication Interface**

- Factory or field installed
- Allows unit communication as a Tracer Lon® device
- Allows unit communication with generic LonTalk® Network building automation controls

**Field Installed Options****Low Ambient (Fan ON/OFF)**

- Provides unit cooling operation to outdoor ambient of 0°F
- Low cost solution
- Discharge pressure controls condenser fan operation



## Mechanical Specifications

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### Service Valves

- Liquid line service valve (with gauge port)
- Suction line service valve (with gauge port)

### Vibration Isolators

- Neoprene-in-shear or spring flex choice
- Reduce vibration transmission to building structures, equipment, and adjacent spaces
- Reduce noise transmission to building structures, equipment, and adjacent spaces

### Zone Sensor

- Interfaces with microprocessor units
- Manual or automatic programmable
- System malfunction lights
- Remote sensor options

### Thermostat

- 1H/1C available
- 2H/1C available
- Manual or automatic changeover available
- Programmable and non-programmable solutions available

### LonTalk Communication Interface

- Factory or field installed
- Allows unit communication as a Tracer Lon® device
- Allows unit communication with generic LonTalk® Network building automation controls

## Air Handlers

### Standard Features

#### General

- Completely factory assembled
- Convertible for horizontal or vertical configuration
- Convertible for cooling only or heat pump application
- Convertible for left or right external connections (refrigerant and/or electrical)
- Convertible for front or bottom air return
- Nitrogen holding charge

#### Casing

- Zinc coated, heavy gauge, galvanized steel
- Weather resistant baked enamel finish
- Access panels with captive screws
- Completely insulated with foil faced, cleanable, fire retardant, permanent, odorless glass fiber material
- Captured or sealed insulation edges
- Electrical connection bushings or plugs
- Refrigerant connection bushings or plugs
- Withstand elevated internal static pressure

#### Refrigeration System

- Single or dual circuit
- Distributor(s)
- Thermal expansion valves (TXVs)

#### Evaporator Coil

- 3/8" internally enhanced copper tube mechanically bonded to lanced aluminum plate fins

- Factory pressure and leak tested to 449 psig.
- Draw-through airflow
- Dual circuits are interlaced/intertwined
- Double sloped, removable, cleanable, composite drain pan
- Four drain pan positions

**Indoor Fan**

- Double inlet, double width, forward curved, centrifugal type fan
- Dual fans on 13 to 16.7 ton air handlers
- Adjustable belt drive
- Permanently lubricated bearings

**Indoor Motor**

- Adjustable motor sheaves (constant volume units)
- Thermal overload protection
- Permanently lubricated bearings
- Meet energy policy of 1992 (EPACT)
- Optional oversized motors for high static applications

**Controls**

- Completely internally wired
- Colored and keyed connectors, colored wires
- Magnetic indoor fan contactor
- Detachable low voltage connectors
- Single point power entry
- Evaporator defrost control

**Filters**

- Access from side coil panels
- Filters slide on rack
- One inch (1"), throwaway filters on 4.6 to 8.33 ton units
- Filter rack convertible to two inch (2") capability on 4.6 - 8.33 ton units
- Two inch (2"), throwaway filters on 13 to 16.7 ton units

**Field Installed Options****Electric Heaters**

- Heavy duty nickel chromium elements
- Installs directly on fan discharge
- One or two stage control (dependent upon capacity)
- Single point power entry
- Terminal strip connections
- Heaters
  - Internally wye connected
  - Automatic line break high limit controls with secondary single action disc limits

**Hydronic Heat Coils**

- One row steam
- Two row hot water
- Installs directly on fan discharge
- Heavy gauge sheet metal casing matches air handler
- Convertible for horizontal or vertical configurations

**Discharge Plenums and Grilles**

- Vertical, free discharge applications
- Heavy gauge sheet metal casing matches air handler



## Mechanical Specifications

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- Satin-finished, 4-way adjustable louver grilles

### **Return Air Grilles**

- Vertical, free discharge applications
- Satin-finished, non-adjustable louver grilles
- Replaces front lower access panel

### **Mounting Sub-Base**

- Vertical floor mount configuration requirement
- Heavy gauge sheet metal casing matches air handler
- Provides additional clearance for condensate drain trapping
- Required when isolators are used

### **Vibration Isolators**

- Neoprene-in-shear or spring flex choice
- Floor or suspended applications
- Reduce vibration transmission to building structures, equipment, and adjacent spaces
- Reduce noise transmission to building structures, equipment, and adjacent spaces

### **Oversize Motors**

- High static applications
- Motor, sheaves, belt included

### **Filters**

- 2 inch, MERV 13 high efficiency filters







**Notes**

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