



Product Catalog

# Split System Air Conditioners Odyssey™ with Symbio™ Controls

Heat Pump Condenser, 6 to 20 Tons, 60 Hz  
Air Handler, 5 to 20 Tons, 60 Hz





## 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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## **Revision History**

- Updated high static motor kit offering in TWE Accessories
- Minor edits included



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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.

On select air handlers, a factory installed variable frequency drive (VFD) is available. These 2-Speed and Single Zone VAV (SZVAV) solutions, combined with condensing units that have multiple compressors, provide increased part load performance (IEER) when conditions are not at the max design condition. Additionally, some states have adopted codes that require this type of performance. Odyssey units are built with installation in mind. With a smaller footprint, the outdoor unit takes up less space and weighs less, making its installation more efficient and economical. Our indoor air handlers are built to be installed in confined spaces, fitting through standard doorways and freight elevators.

## 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

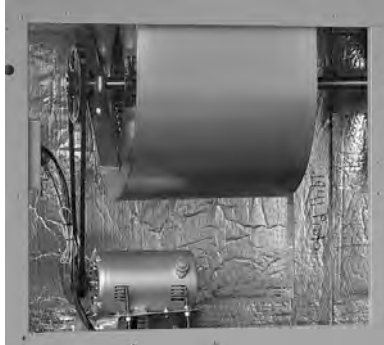
Our units are rigorously rain tested to ensure water integrity. Actual shipping tests are performed to determine packaging requirements. Units are test shipped around the country to determine the best packaging. Factory shake and drop tests are used as part of the package design process to help assure 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.

**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 6-20 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.

**Hail/Vandal Guards** — These coil guards shall be either factory or field installed for condenser coil protection. This feature protects the condenser coil from vandalism and/or hail damage. When ordered factory installed, it also adds additional shipping protection.



**Heat Pump Fan Fail Consideration** — For SZVAV/2-Speed units: In the event that airflow is not available during heating operation, a bi-metallic switch is mounted on the VFD bracket to turn off the compressors and prevent overheating of the motor and VFD.

**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 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 50°F, 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.

**Single Zone Variable Air Volume (SZVAV)** — A variable frequency drive is used in conjunction with the Symbio™ 700 to provide supply fan motor speed modulation. For SZVAV control, the drive will accelerate or decelerate as required to meet the Zone Cooling demand. In order to maximize energy savings, the VFD will be held at minimum speed until the load in the zone requires the speed to increase. The supply fan speed will be reduced to a minimum of 58%<sup>1</sup> during ventilation and part load cooling demands, and 80% during full load cooling demands with the ability to fully modulate. The commissioning maximum and minimum airflow points can be easily set by programming these parameters at the display on the Symbio control board.

**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.

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<sup>1</sup> 64% for part load and 83% for full load if a max speed of less than 44.5 Hz is desired.



**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	
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		
Hail/Vandal Guards		X	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		
Single Zone Variable Air Volume (SZVAV / 2-Speed Fan)		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.

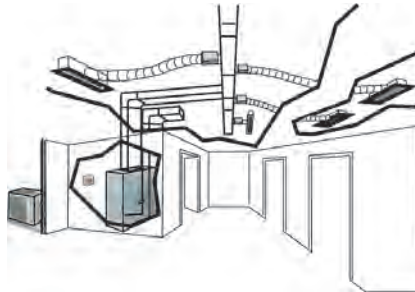
#### Other Benefits

- 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.

## Additional Controls

**VariTrac® Building Automation System** — When Trane’s changeover VAV System for light commercial applications is coupled with the unit, it provides the latest in technological advances for comfort management systems and can allow thermostat control in every zone served by VariTrac.



**Froststat™** — This control (a standard feature on all air handlers) utilizes a capillary bulb embedded in the face of the evaporator coil which monitors coil temperature to inhibit evaporator icing and protect the compressor. Useful for applications with low leaving air temperatures, low airflow and/or high latent load applications.

**LonTalk® Communications Interface** — The LonTalk communications interface allows the unit to communicate as a Tracer LON® device or directly with generic LonTalk Network Building Automation System Controls.

**BACnet® Communication Interface (BCI)** — The BACnet Communication Interface allows the unit to communicate directly with a generic open protocol BACnet MS/TP or IP Network Building Automation Control System.

**Zone Sensors/Thermostats**— Available in programmable, automatic and manual styles.

**Table 2. Odyssey control options – standard and optional**

	Standard Features	Options <sup>(a)</sup>	
		Factory Installed	Field Installed
BACnet® Communication Interface (BCI)		X	
Froststat™ - Evaporator Defrost Control (EDC)	X		
LonTalk® Communications Interface (LCI)		X	
Symbio™ 700 Microprocessor Controls	X		
Thermostat			X
Zone Sensor			X

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



# Accessories

## Heat Pump Condenser

**Table 3. TWA Accessories**

Model	Used With
<b>Coil (Hail/Vandal) Guard</b>	
BAYGARD063*	TWA072**A, TWA090**A
BAYGARD064*	TWA072**D, TWA090**D
BAYGARD065*	TWA120
BAYGARD066*	TWA180, TWA240
<b>Rubber Isolators</b>	
BAYISLT005* (black)	TWA072, TWA090, TWA120
BAYISLT009* (red)	TWA180
BAYISLT010* (green)	TWA240
<b>Steel Spring Isolators</b>	
BAYISLT023* (red)	TWA072, TWA090, TWA120
BAYISLT024* (black)	TWA180
BAYISLT025* (yellow)	TWA240
<b>Service Valve Kit</b>	
BAYVALV001*	TWA0724*A, TWA1204*A
BAYVALV002*	TWA0904*A
BAYVALV003*	TWA0724*D, TWA0904*D, TWA1204*D
BAYVALV006*	TWA01804*D, TWA2404*D
<b>Low Ambient – On/Off Fan Control<sup>(a) (b)</sup></b>	
BAYLOAMS10* (External Mount, small cabinets) <sup>(c)</sup>	(all voltages) TWA072, TWA090, TWA120
BAYLOAMS20* (Internal mount, large cabinets)	(all voltages) TWA180, TWA240
<b>Transducer Kit for Head Pressure Control (BAYLOAMS10*)</b>	
BAYLOTR001* <sup>(d)</sup>	TWA072**D, TWA090**D, TWA120**D
<b>LonTalk Communications Interface<sup>(e)</sup></b>	
BAYLTIC005*	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 4. TWE Accessories**

<b>Model</b>	<b>Used With</b>
<b>Base (Subbase)</b>	
BAYBASE009*	TWE060
BAYBASE0010*	TWE072, TWE090
BAYBASE0011*	TWE120
BAYBASE0012*	TWE150, TWE180
BAYBASE0013*	TWE240
<b>Drip Kit</b>	
BAYDRKT006*	TWE060
BAYDRKT007*	TWE072, TWE090
BAYDRKT008*	TWE120
BAYDRKT009*	TWE150, TWE180
BAYDRKT010*	TWE240
<b>Duct Flange Kit</b>	
BAYDUCT010*	TWE051, TWE060, TWE072, TWE076, TWE090, TWE101, TWE120
BAYDUCT020*	TWE126, TWE150, TWE156, TWE180, TWE201, TWE240, TWE251, TWE300
<b>Filters – 2" MERV 13</b>	
BAYFILT001*	TWE060
BAYFILT002*	TWE072, TWE090
BAYFILT003*	TWE120
BAYFILT004*	TWE150, TWE180
BAYFILT005*	TWE240
<b>High Static Motor Kits<sup>(a)</sup></b>	
BAYHSMT104* – 1.5HP (230/1) with Motor Sheave, Fan Sheave and Belt	TWE060*1A/B
BAYHSMT105* – 1.5HP (230-460/3) with Motor Sheave, Fan Sheave and Belt	TWE060*3A/B, TWE060*4A/B
BAYHSMT106* – 1.5HP (575/3) with Motor Sheave, Fan Sheave and Belt	TWE060*WA
BAYHSMT107* – 2 HP (230/1) with Motor Sheave, Fan Sheave and Belt	TWE090*1A/B
BAYHSMT108* – 2HP (230-460/3) with Motor Sheave, Fan Sheave and Belt	TWE072*3B, TWE090*3A/B
BAYHSMT109* – 2 HP (575/3) with Motor Sheave, Fan Sheave and Belt	TWE072*WB, TWE090*WA/B
BAYHSMT110* – 3HP (230/460/3) with Motor Sheave, Fan Sheave and Belt	TWE072*3B, TWE090*3A/B
BAYHSMT111* – 3 HP (575/3) with Motor Sheave, Fan Sheave and Belt	TWE072*WB, TWE090*WA/B
BAYHSMT112* – 3HP (230/460/3) with Motor Sheave, Fan Sheave and Belt	TWE120*3A/B
BAYHSMT113* – 3 HP (575/3) with Motor Sheave, Fan Sheave and Belt	TWE120*WA/B
BAYHSMT114* – 3HP (230/460/3) with Motor Sheave, Fan Sheave and Belt	TWE150*3B
BAYHSMT115* – 3 HP (575/3) with Motor Sheave, Fan Sheave and Belt	TWE150*WB
BAYHSMT116* – 5 HP (230/3) with Motor Sheave, Fan Sheave and Belt	TWE150*3B
BAYHSMT117* – 5HP (460/3) with Motor Sheave, Fan Sheave and Belt	TWE150*3B
BAYHSMT118* – 5 HP (575/3) with Motor Sheave, Fan Sheave and Belt	TWE150*WB
BAYHSMT119* – 5 HP (208-230/3) with Motor Sheave and Fan Sheave (Stock Belt used)	TWE180*3B
BAYHSMT120* – 5HP (460/380–415/3) with Motor Sheave and Fan Sheave (Stock Belt used)	TWE180*3B
BAYHSMT121* – 5 HP (575/3) with Motor Sheave and Fan Sheave (Stock Belt used)	TWE180*WB
BAYHSMT124* – 7.5 HP (230/3) with Motor Sheave, Fan Sheave and Belt	TWE240*3B
BAYHSMT126* – 7.5 HP (460/3) with Motor Sheave, Fan Sheave and Belt	TWE240*4B
BAYHSMT123* – 7.5 HP (575/3) with Motor Sheave, Fan Sheave and Belt	TWE240*WB



## Accessories

**Table 4. TWE Accessories (continued)**

Model	Used With
<b>Rubber Isolators<sup>(b) (c) (d)</sup></b>	
BAYISLT004* (Floor — Blue)	TWE060, TWE072, TWE090, TWE120
BAYISLT009* (Floor — Red) <sup>(e)</sup>	TWE150, TWE180
BAYISLT010* (Floor — Green) <sup>(e)(b)</sup>	TWE240,
BAYISLT012* (Suspended — Red/Green)	TWE150, TWE180
BAYISLT013* (Suspended — Red/Green) <sup>(d)</sup>	TWE060
BAYISLT014* (Suspended — Green) <sup>(d)</sup>	TWE072, TWE090
BAYISLT015* (Suspended — Green/Black) <sup>(d)</sup>	TWE120
BAYISLT016* (Suspended — Red/Green)	TWE240
<b>Steel Spring Isolators<sup>(c)</sup></b>	
BAYISLT019* (Floor — Red) <sup>(e)(b)</sup>	TWE060, TWE072, TWE090, TWE120
BAYISLT021* (Floor — Black) <sup>(e)(b)</sup>	TWE150, TWE180
BAYISLT032* (Floor — Black/Yellow) <sup>(e)(b)</sup>	TWE240
BAYISLT028* (Suspended — Tan)	TWE060
BAYISLT029* (Suspended — Red)	TWE072, TWE090, TWE120
BAYISLT030* (Suspended — Black)	TWE150, TWE180
BAYISLT031* (Suspended — Black/Yellow)	TWE240
<b>Low Static Drive Kit<sup>(a)</sup></b>	
BAYLSMT001*	TWE240*3, TWE240*4
<b>Plenum<sup>(f)</sup></b>	
BAYPLNM015* (Discharge Plenum & Grille) <sup>(f)</sup>	TWE060
BAYPLNM016* (Discharge Plenum & Grille) <sup>(f)</sup>	TWE072, TWE090
BAYPLNM017* (Discharge Plenum & Grille) <sup>(f)</sup>	TWE120
BAYPLNM018* (Discharge Plenum/Hydronic Coil Plenum & Grille) <sup>(f)</sup>	TWE150, TWE180
BAYPLNM019* (Discharge Plenum/Hydronic Coil Plenum & Grille) <sup>(f)</sup>	TWE240
BAYPLNM020* (Hydronic Coil Discharge Plenum & Grille) <sup>(f)</sup>	TWE060
BAYPLNM021* (Hydronic Coil Discharge Plenum & Grille) <sup>(f)</sup>	TWE072, TWE090
BAYPLNM022* (Hydronic Coil Discharge Plenum & Grille) <sup>(f)</sup>	TWE120
BAYPLNM030* (Electric Heat Discharge Plenum & Grille) <sup>(f)</sup>	TWE060
BAYPLNM031* (Electric Heat Discharge Plenum & Grille) <sup>(f)</sup>	TWE072, TWE090
BAYPLNM032* (Electric Heat Discharge Plenum & Grille) <sup>(f)</sup>	TWE120
BAYPLNM033* (Electric Heat Discharge Plenum & Grille) <sup>(f)</sup>	TWE150, TWE180
BAYPLNM034* (Electric Heat Discharge Plenum & Grille) <sup>(f)</sup>	TWE240
<b>Return Air Grille</b>	
BAYGRLE001*	TWE060
BAYGRLE002*	TWE072, TWE090
BAYGRLE003*	TWE120
BAYGRLE004*	TWE150, TWE180
BAYGRLE005*	TWE240
<b>Symbio™ Options Module Kit</b>	
BAYMODU001*	All TWE units with Digit 15 = 1 and Electric heater installed
<b>Transformer</b>	
BAYTFMR014* - 100 VA Transformer (208-230V)	All TWE072 – TWE300, 208-230V units
BAYTFMR015* - 100 VA Transformer (460V)	All TWE072 – TWE120, 460V units
BAYTFMR016* - 100 VA Transformer (575V)	All TWE072 – TWE120, 460V units
BAYTFMR017* - 100 VA Transformer (400 V)	All TWE072 – TWE120 380V/60 Hz unit
<b>Water Kits</b>	
BAYWATR022* (Steam Coil Enclosure) <sup>(f)</sup>	TWE060
BAYWATR023* (Steam Coil Enclosure) <sup>(f)</sup>	TWE072, TWE090

**Table 4. TWE Accessories (continued)**

Model	Used With
BAYWATR024* (Steam Coil Enclosure) <sup>(f)</sup>	TWE120
BAYWATR025* (Steam Coil Enclosure) <sup>(f)</sup>	TWE150, TWE180
BAYWATR026* (Steam Coil Enclosure) <sup>(f)</sup>	TWE240
BAYWATR027* (Hot Water Coil Enclosure) <sup>(f)</sup>	TWE060
BAYWATR028* (Hot Water Coil Enclosure) <sup>(f)</sup>	TWE072, TWE090
BAYWATR029* (Hot Water Coil Enclosure) <sup>(f)</sup>	TWE120
BAYWATR030* (Hot Water Coil Enclosure) <sup>(f)</sup>	TWE150, TWE180
BAYWATR031* (Hot Water Coil Enclosure) <sup>(f)</sup>	TWE240
<b>Wire Kit — 180° Blower Discharge Reversal Kit<sup>(g)</sup></b>	
BAYWRKT002*	TWE060, TWE072, TWE090, TWE120

<sup>(a)</sup> Used on constant volume air handlers only.

<sup>(b)</sup> Requires use of subbase accessory.

<sup>(c)</sup> In units with steam or hot water coils applied vertically or horizontally, check IOM for proper Isolator Kit selection.

<sup>(d)</sup> Do not use if blower will operate less than 600 RPM.

<sup>(e)</sup> When the air handler is in the vertical position and close proximity trapping of condensate is required, use of subbase is required.

<sup>(f)</sup> 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.

<sup>(g)</sup> Cannot be used on TWE150-300, due to motor mount location.

## Electric Heaters

**Table 5. Electric heaters**

Model	Used With
<b>6–10 Ton Electric Heater Selection</b>	
BAYHTRN106* — 4.33/5.76 kW Heater 208/240/1 Phase	TWE060*1, TWE090*1, TWE120*1
BAYHTRR112* — 8.65/11.52 kW Heater 208/240/1 Phase	TWE060*1, TWE090*1, TWE120*1
BAYHTRS117* — 12.98/17.28 kW Heater 208/240/1 Phase	TWE060*1, TWE090*1, TWE120*1
BAYHTRR123* — 17.31/23.04 kW Heater 208/240/1 Phase	TWE060*1, TWE090*1, TWE120*1
BAYHTRN129* — 21.63/28.80 kW Heater 208/240/1 Phase	TWE090*1, TWE120*1
BAYHTRN305* — 3.76/5.00 kW Heater 208/240/3 Phase	TWE060*3, TWE072*3B, TWE090*3, TWE120*3 (CV, VFD, & OS MTR)
BAYHTRR310* — 7.48/9.96 kW Heater 208/240/3 Phase	TWE060*3, TWE072*3B, TWE090*3, TWE120*3 (CV, VFD, & OS MTR)
BAYHTRR315* — 11.24/14.96 kW Heater 208/240/3 Phase	TWE060*3, TWE072*3B, TWE090*3, TWE120*3 (CV, VFD, & OS MTR)
BAYHTRN325* — 18.72/24.92 kW Heater 208/240/3 Phase	TWE060*3, TWE072*3B, TWE090*3, TWE120*3 (CV, VFD, & OS MTR)
BAYHTRN335* — 26.20/34.88 kW Heater 208/240/3 Phase	TWE090*3, TWE120*3 (CV, VFD, & OS MTR)
BAYHTRN405* — 5.00 kW Heater 460/3 Phase <sup>(a)</sup>	TWE060*4, TWE072*3*****0, TWE072*4*****A/B, TWE090*3*****0, TWE090*4B*****A/B, TWE120*3*****0, TWE120*4*****A/B
BAYHTRR410* — 9.96 kW Heater 460/3 Phase <sup>(a)</sup>	TWE060*4, TWE072*3*****0, TWE072*4*****A/B, TWE090*3*****0, TWE090*4B*****A/B, TWE120*3*****0, TWE120*4*****A/B
BAYHTRR415* — 14.96 kW Heater 460/3 Phase <sup>(a)</sup>	TWE060*4, TWE072*3*****0, TWE072*4*****A/B, TWE090*3*****0, TWE090*4B*****A/B, TWE120*3*****0, TWE120*4*****A/B
BAYHTRN425* — 24.92 kW Heater 460/3 Phase <sup>(a)</sup>	TWE060*4, TWE072*3*****0, TWE072*4*****A/B, TWE090*3*****0, TWE090*4B*****A/B, TWE120*3*****0, TWE120*4*****A/B
BAYHTRN435* — 34.88 kW Heater 460/3 Phase <sup>(a)</sup>	TWE090*3*****0, TWE090*4B*****A/B, TWE120*3*****0, TWE120*4*****A/B
BAYHTRNW05* — 5 kW Heater 575/3 Phase	TWE060*W, TWE072*W, TWE090*W, TWE120*W (CV, VFD, & OS MTR)
BAYHTRRW10* — 9.96 kW Heater 575/3 Phase	TWE060*W, TWE072*W, TWE090*W, TWE120*W (CV, VFD, & OS MTR)
BAYHTRRW15* — 14.96 kW Heater 575/3 Phase	TWE060*W, TWE072*W, TWE090*W, TWE120*W (CV, VFD, & OS MTR)
BAYHTRNW25* — 24.92 kW Heater 575/3 Phase	TWE060*W, TWE072*W, TWE090*W, TWE120*W (CV, VFD, & OS MTR)
BAYHTRNW35* — 34.88 kW Heater 575/3 Phase	TWE090*W, TWE120*W (CV, VFD, & OS MTR)
<b>12.5–20 Ton Electric Heater Selection</b>	
BAYHTRP310* — 7.51/10.0 kW Heater 208/230 3 Phase	TWE150*3, TWE180*3, TWE240*3 (CV, VFD, & OS MTR)



## Accessories

**Table 5. Electric heaters (continued)**

Model	Used With
BAYHTRP320* — 14.96/19.92 kW Heater 208/230 3 Phase	TWE150*3, TWE180*3, TWE240*3 (CV, VFD, & OS MTR)
BAYHTRP330* — 22.47/29.92 kW Heater 208/230 3 Phase	TWE150*3, TWE180*3, TWE240*3 (CV, VFD, & OS MTR)
BAYHTRP350* — 37.44/49.84 kW Heater 208/230 3 Phase	TWE150*3, TWE180*3, TWE240*3 (CV, VFD, & OS MTR)
BAYHTRP410* — 10.0 kW Heater 460/3 Phase <sup>(a)</sup>	TWE150*3*****0, TWE150*4*****A/B, TWE180*3*****0, TWE180*4*****A/B, TWE240*4 (CV, VFD, & OS MTR)
BAYHTRP420* — 19.92 kW Heater 460/3 Phase <sup>(a)</sup>	TWE150*3*****0, TWE150*4*****A/B, TWE180*3*****0, TWE180*4*****A/B, TWE240*4 (CV, VFD, & OS MTR)
BAYHTRP430* — 29.92 kW Heater 460/3 Phase <sup>(a)</sup>	TWE150*3*****0, TWE150*4*****A/B, TWE180*3*****0, TWE180*4*****A/B, TWE240*4 (CV, VFD, & OS MTR)
BAYHTRP450* — 49.84 kW Heater 460/3 Phase <sup>(a)</sup>	TWE150*3*****0, TWE150*4*****A/B, TWE180*3*****0, TWE180*4*****A/B, TWE240*4 (CV, VFD, & OS MTR)
BAYHTRPW10* — 10.0 kW Heater 575/3 Phase	TWE150*W, TWE180*W, TWE240*W (CV, VFD, & OS MTR)
BAYHTRPW20* — 19.92 kW Heater 575/3 Phase	TWE150*W, TWE180*W, TWE240*W (CV, VFD, & OS MTR)
BAYHTRPW30* — 29.92 kW Heater 575/3 Phase	TWE150*W, TWE180*W, TWE240*W (CV, VFD, & OS MTR)
BAYHTRPW50* — 49.84 kW Heater 575/3 Phase	TWE150*W, TWE180*W, TWE240*W (CV, VFD, & OS MTR)

**Note:** Electric Heaters not available for 380/60hz

<sup>(a)</sup> BAYHTR\*4 & BAYHTRP4\* heaters are available for 230V units that have been field-converted to 460V.





# 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.

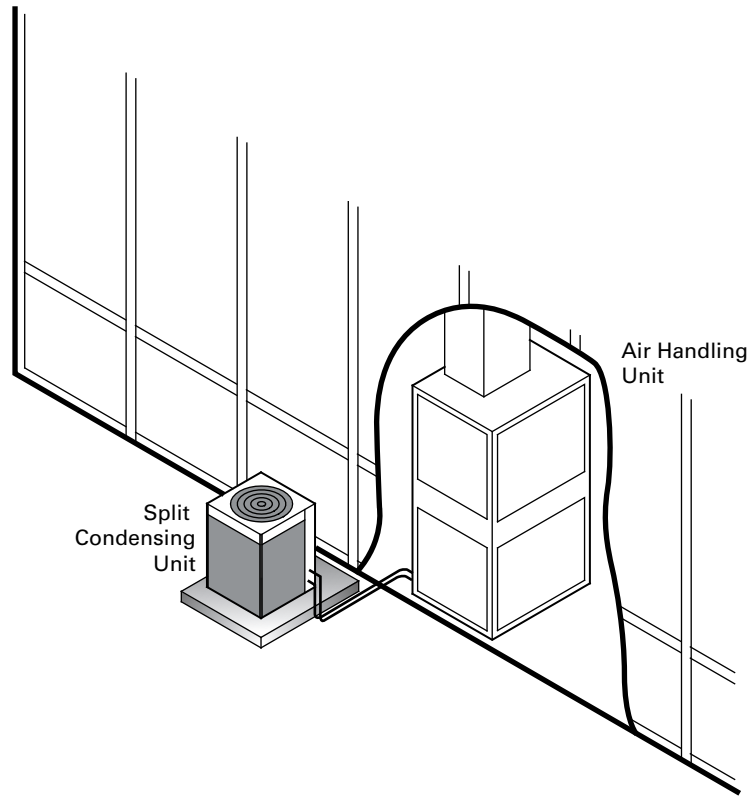
## 180° Blower Rotation

The 5, 6, 7.5, and 10 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.

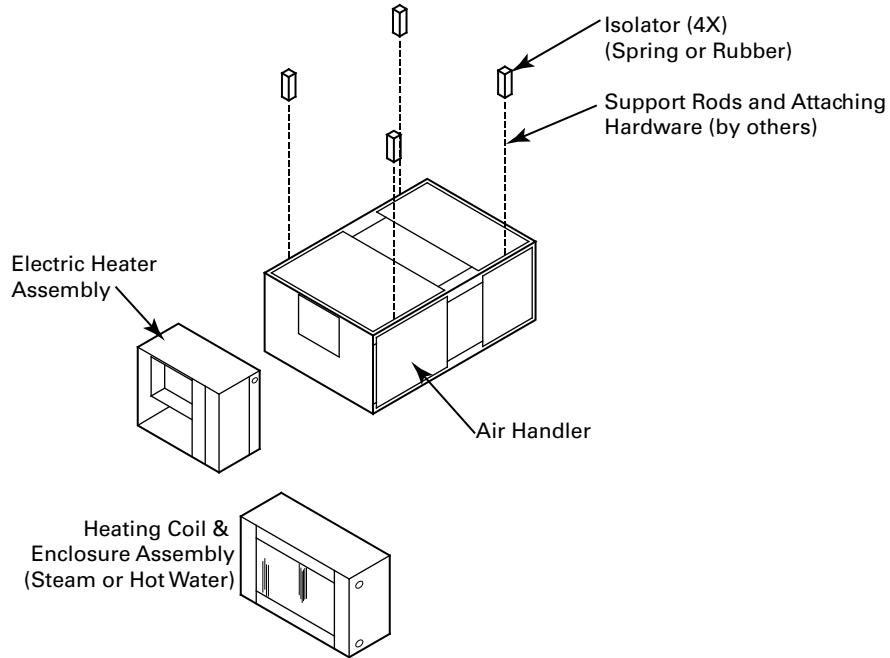
## Low Ambient Cooling

As manufactured, all Odyssey units have cooling capabilities down to 0°F. At temperatures below 50°F, 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. 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.

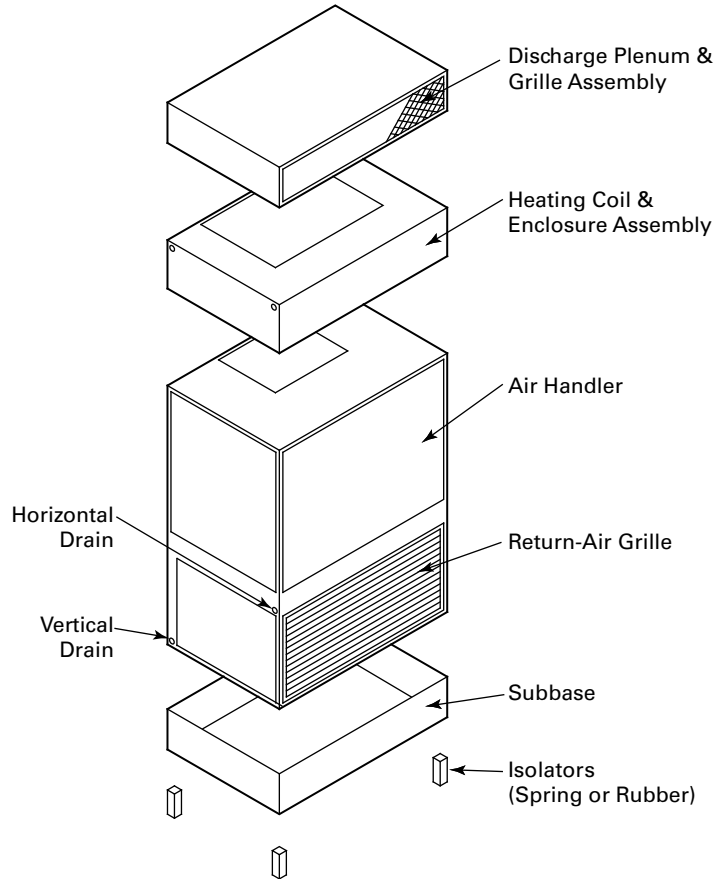
**Figure 4. Typical split system application**



**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: 460/60/3  
Summer Design Conditions: Entering Evap Coil—80°F DB/67°F WB , Outdoor Ambient—95°F  
Total Cooling Load: 82 MBh  
Sensible Cooling Load: 60 MBh  
Airflow: 3000 cfm  
External Static Pressure: 0.77 inches of water gauge
3. Use [Table 13, p. 30](#) to determine that TWA09043A with TWE09043A has a gross cooling capacity of 94.7 and 75.6 sensible capacity at 95°F DB ambient and 3000 cfm with 80°F DB/67°F 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: 0.77  
Standard Filter: 0.10 in.  
Supplementary Electric Heat: 0.23 in.  
Total Static Pressure: 1.10 in.

### Notes:

- *The Evaporator Fan Performance Table has included the effect of a 1 in. filter already. Therefore, the actual Total Static Pressure is 1.10 - 0.10 = 1.00 in. . With 3000 cfm and 1.00 in., [Table 38, p. 51](#) shows 1.97 Bhp (high static drive kit required).*
- *This formula can be used to calculate Fan Motor Heat:*  
$$3.15 \times \text{Bhp} = \text{MBh}$$
$$3.15 \times 1.97 = 6.2 \text{ MBh}$$
$$\text{Net Total Cooling Capacity} = 94.7 \text{ MBh} - 6.2 \text{ MBh} = 93.2 \text{ MBh}$$
$$\text{Net Sensible Cooling Capacity} = 75.6 \text{ MBh} - 6.2 \text{ MBh} = 75.6 \text{ MBh}$$

## Heating Capacity

1. Calculate the building heating load using the Trane calculation form or any other standard accepted method.
2. Size the equipment using [Table 52, p. 63](#) to match the heating loads at design conditions. For example, if the following specifies the building heating requirements:  
Total Heating Load: 95.0 MBh  
Outdoor Ambient (Winter): 17°F DB  
Indoor Return Temperature: 70°F DB  
Airflow: 2625 cfm
3. [Table 29, p. 45](#) indicates the mechanical heating portion of the heat pump will provide 54.3 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 53, p. 63](#), the 34.88 kW heater at 460V has a capacity of 119,045. From [p. 73](#), the 34.88 kW heater at 460V indicates the heater model is BAYHTRL435.



## Selection Procedure

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### Air Delivery

1. The external static pressure drop through the air distribution system is 0.77 inches of water gauge, use [Table 52, p. 63](#) to determine that the static pressure drop through the electric heater is 0.23 inches of water ( $0.77 + 0.23 = 1.00$  in.).
2. Enter [Table 38, p. 51](#) for TWE09043A at 2625 cfm and 1.00 static pressure. The high static motor at 995 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

**072** = 6 Tons (60 Hz)

**090** = 7.5 Tons (60 Hz)

**120** = 10 Tons (60 Hz)

**180** = 15 Tons (60 Hz)

**240** = 20 Tons (60 Hz)

### Digit 7 — Refrigerant

**4** = R-410A

### Digit 8 — Voltage

**3** = 208-230 Vac - 3 PH (60Hz)

**4** = 460 Vac - 3 PH (60Hz)

**W** = 575 Vac - 3 PH (60Hz)

**K** = 380 Vac - 3 PH (60Hz)

### 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

**A** = Rev A

### Digit 11 — Minor Design Sequence

**A** = Rev A

### Digit 12, 13 — Service Digits

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### Digit 14 — Efficiency Generation

**A** = Generation A

### Digit 15 — Controls

**S** = Symbio™

### Digit 16 — None

**0** = None

### Digit 17 — Coil Protection

**0** = Standard Coil

**1** = Standard Coil w/ Hail Guard

**2** = Black Epoxy Pre-Coated Condenser Coil (FIN/TUBE)

**3** = Black Epoxy Pre-Coated Condenser Coil with Hail 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



## Model Number Description

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### Air Handler

#### Digit 1, 2, 3 — Unit Function

**TWE** = Air Handler

#### Digit 4, 5, 6— Tonnage

**060** = 5 Tons (60 Hz)  
**072** = 6 Tons (60Hz)  
**090** = 7.5 Tons (60 Hz)  
**120** = 10 Tons (60 Hz)  
**180** = 15 Tons (60 Hz)  
**240** = 20 Tons (60 Hz)

#### Digit 7 — Refrigerant

**4** = R-410A

#### Digit 8 — Voltage

**1** = 208-230 Vac - 1 PH (60 Hz)  
**3** = 208-230 Vac - 3 PH (60 Hz)  
**4** = 460 Vac - 3 PH (60 Hz)  
**W** = 575 Vac - 3 PH (60 Hz)  
**K** = 380 Vac - 3 PH (60Hz)

#### Digit 9 — Refrigeration Circuit/Stage

**A** = Single Circuit  
**B** = Dual Circuit

#### Digit 10 — Major Design Sequence

**A** = Rev A

#### Digit 11 — Minor Design Sequence

**A** = Rev A

#### Digit 12, 13 — Service Digits

\*\*

#### Digit 14 — Efficiency Generation

**A** = Generation A (2018 DOE)

#### Digit 15 — Controls

**1** = Constant Volume  
**C** = 2 Stage Airflow (Electromechanical Cond Only)  
**D** = 2 Stage Airflow/Single Zone VAV (Symbio Cond Only)

#### Digit 16 — Indoor Fan Sizes

**0** = Standard Motor  
**4** = High Static - (Oversized Motor for VFD Units)

#### Digit 17 to 40 — None

**0** = None



# General Data

**Table 6. General data for 6 - 7.5 ton (TWA0724\*A\*-TWA0904\*D\*) heat pump units, 60 Hz**

	<b>6 Tons Single Comp TWA0724*A*</b>	<b>6 Tons Dual Comp TWA0724*D*</b>	<b>7.5 Tons Single Comp TWA0904*A*</b>	<b>7.5 Tons Dual Comp TWA0904*D*</b>
<b>Cooling Performance - Gross Cooling Capacity</b>				
Matched Air Handler	TWE0904*A*	TWE0724*B*	TWE0904*A*	TWE0904*B*
AHRI Rated Airflow	2,400	2,400	3,000	3,000
Gross Cooling Capacity - System	82,000	78,000	95,000	96,000
Condensing Unit Only	76,000	71,000	88,000	88,000
AHRI Net Cooling Capacity	80,000	77,000	92,000	93,000
<b>Efficiency</b>				
Matched Air Handler (EER)	11.3	11.2	11.3	11.2
Condensing Unit Only (EER)	13.0	12.7	11.0	12.8
System (IEER)	12.4	12.2	12.4	12.2
System kW/Condensing Unit kW	6.4 / 5.9	6.1 / 5.6	8.0 / 7.3	7.6 / 6.8
<b>Heating Performance - AHRI Htg/Matched AH</b>				
High Temperature Capacity	72,000	64,000	87,000	82,000
System kW/COP	5.79 / 3.3	5.08 / 3.3	6.49 / 3.3	6.36 / 3.3
Low Temperature Capacity	46,000	38,000	45,500	51,500
System kW/COP	5.38 / 2.25	4.69 / 2.25	6.32 / 2.2	6.04 / 2.25
<b>Compressor</b>				
Type	Scroll	Scroll	Scroll	Scroll
No./Tons	1/5.6	2/2.6	1/6.8	2/3.25
<b>System Data</b>				
No. Refrigerant Circuits <sup>(a)</sup>	1	2	1	2
Suction Line Connection (in.) OD <sup>(a)</sup>	1 3/8	7/8	1 3/8	1 1/8
Liquid Line Connection (in.) OD <sup>(a)</sup>	1/2	1/2	1/2	1/2
<b>Outdoor Coil</b>				
Type / Tube Size (in.) OD	Lanced / 0.375	Lanced / 0.375	Lanced / 0.375	Lanced / 0.375
Face Area (sq ft)	19.24	19.24	19.24	23.96
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.)	1/26	1/26	1/26	1/26
Drive Type/No. Speeds	Direct/1	Direct/1	Direct/1	Direct/1
CFM	6,530	6,530	6,530	6,530
No. Motor/HP	1/0.5	1/0.5	1/0.5	1/0.5
Motor RPM	1,100	1,100	1,100	1,100
<b>Refrigerant Charge (Field Supplied)</b>				
lbs of R-410A	20.4	11.0/11.0	19.0	11.8/11.8
<b>Shipping Dimensions</b>				
HxWxD (in.)	45" x 45" x 38"	45" x 55" x 42"	45" x 45" x 38"	45" x 55" x 42"

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



## General Data

**Table 7. General data for 10 - 20 ton (TWA1204\*A\*-TWA2404\*D\*) heat pump units, 60 Hz**

	<b>10 Tons Single Comp TWA1204*A*</b>	<b>10 Tons Dual Comp TWA1204*D*</b>	<b>15 Tons Dual Comp TWA1804*D*</b>	<b>20 Tons Dual Comp TWA2404*D*</b>
<b>Cooling Performance - Gross Cooling Capacity</b>				
Matched Air Handler	TWE1204*A*	TWE1204*B*	TWE1804*B*	TWE2404*B*
AHRI Rated Airflow	4,000	3,500	6,000	8,000
Gross Cooling Capacity - System	127,000	120,000	194,000	258,000
Condensing Unit Only	117,000	115,000	176,000	276,000
AHRI Net Cooling Capacity	123,000	118,000	188,000	248,000
<b>Efficiency</b>				
Matched Air Handler (EER)	11.3	11.2	10.8	10.0
Condensing Unit Only (EER)	12.5	12.6	11.9	12.8
System (IEER)	12.4	12.2	11.6	10.6
System kW/Condensing Unit kW	10.6 / 9.4	9.9 / 9.1	17 / 14.8	24 / 21.6
<b>Heating Performance - AHRI Htg/Matched AH</b>				
High Temperature Capacity	120,000	112,000	178,000	238,000
System kW/COP	9.92 / 3.3	8.98 / 3.3	15.67 / 3.2	21.5 / 3.2
Low Temperature Capacity	76,000	71,000	117,000	148,000
System kW/COP	9.30 / 2.25	8.29 / 2.25	14.21 / 2.05	19.1 / 2.05
<b>Compressor</b>				
Type	Scroll	Scroll	Scroll	Scroll
No./Tons	1/8.6	2/4.3	2/6.9	2/10.1
<b>System Data</b>				
No. Refrigerant Circuits <sup>(a)</sup>	1	2	2	2
Suction Line Connection (in.) OD <sup>(a)</sup>	1 3/8	1 1/8	1 1/8	1 3/8
Liquid Line Connection (in.) OD <sup>(a)</sup>	1/2	1/2	1/2	5/8
<b>Outdoor Coil</b>				
Type / Tube Size (in.) OD	Lanced / 0.375	Lanced / 0.375	Lanced / 0.375	Lanced / 0.375
Face Area (sq ft)	29.02	29.02	52.60	52.60
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.)	1/28	1/28	2/28	2/28
Drive Type/No. Speeds	Direct/1	Direct/1	Direct/1	Direct/1
CFM	9,800	9,800	19,500	19,500
No. Motor/HP	1/1	1/1	2/1	2/1
Motor RPM	1,125	1,125	1,125	1,125
<b>Refrigerant Charge (Field Supplied)</b>				
lbs of R-410A	34.7	14.0/14.0	27.2/24.5	23.5/23.5
<b>Shipping Dimensions</b>				
HxWxD (in.)	52.1" x 55" x 42"	52.1" x 55" x 42"	51.1" x 96" x 48"	51.1" x 96" x 48"

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



**Table 8. General data — 5-7.5 tons (TWE0604\*A\*-TWE0904\*B\*) standard air handler — 60 Hz**

	5 Tons	5 Tons	6 Tons	7.5 Tons	7.5 Tons
	Single Circuit TWE0604*A*	Dual Circuit TWE0604*B*	Dual Circuit TWE0724*B*	Single Circuit TWE0904*A*	Dual Circuit TWE0904*B*
<b>System Data</b>					
No. Refrigerant Circuits	1	2	2	1	2
Suction Line Connection (in.) OD	1-1/8	1-1/8	1-1/8	1-3/8	1-1/8
Liquid Line Connection (in.) OD	1/2	1/2	1/2	1/2	1/2
<b>Indoor Coil</b>					
Type	Lanced/Intertwined	Lanced/Intertwined	Lanced/Intertwined	Lanced/Intertwined	Lanced/Intertwined
Tube Size (in.)	0.375	0.375	0.375	0.375	0.375
Face Area (sq. ft.)	5	5	8.1	8.1	8.1
Rows/FPI (Fins per inch)	4/14	4/14	4/14	4/14	4/14
Refrigerant Control	Expansion Valve	Expansion Valve	Expansion Valve	Expansion Valve	Expansion Valve
Drain Connection Size (in.)	1 PVC	1 PVC	1 PVC	1 PVC	1 PVC
<b>Indoor Fan</b>					
Type	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal
No. Used/Diameter x Width (in.)	1/12 x 12	1/12 x 12	1/15 x 15	1/15 x 15	1/15 x 15
Drive Type/No. Speeds	Belt/Adjustable	Belt/Adjustable	Belt/Adjustable	Belt/Adjustable	Belt/Adjustable
CFM (Nominal)	2,000	2,000	2,400	3,000	3,000
No. Motors	1	1	1	1	1
Motor HP - Standard/Oversized	0.75/1.5	0.75/1.5	1.5/2.0/3.0	1.5/2.0/3.0	1.5/2.0/3.0
Motor RPM	1725	1725	1725	1725	1725
Motor Frame Size	56	56	56 H	56 H	56 H
<b>Filters<sup>(a)</sup></b>					
Type/Furnished	Throwaway/Yes	Throwaway/Yes	Throwaway/Yes	Throwaway/Yes	Throwaway/Yes
(No.)/Size Recommended	(1) 16 x 20 x 1 (1) 20 x 20 x 1	(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	(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.)	55.1" x 27.5" x 43.5"	55.1" x 27.5" x 43.5"	61.2" x 30.5" x 53"	61.2" x 30.5" x 53"	61.2" x 30.5" x 53"

**Notes:**

1. Constant volume 6-15 ton ships wired for 208/230V, field convertible 460V.
  2. Oversized motor not available on 41A/B and 4KA/B models.
- (a) One inch, throw-away filters shall be standard on TWE060, TWE072, TWE090, TWE120 model air handlers from the factory. The filter rack can be field converted to two inch capability. Two inch, throw-away filters shall be standard on TWE1804\*B and TWE2404\*B models.

**Table 9. General data — 10-20 tons (TWE1204\*A\*-TWE2404\*B\*) standard air handler — 60 Hz**

	10 Tons Single Circuit TWE1204*A*	10 Tons Dual Circuit TWE1204*B*	15 Tons Dual Circuit TWE1804*B*	20 Tons Dual Circuit TWE2404*B*
<b>System Data</b>				
No. Refrigerant Circuits	1	2	2	2
Suction Line Connection (in.) OD	1-3/8	1-1/8	1-3/8	1-3/8
Liquid Line Connection (in.) OD	1/2	1/2	1/2	1/2
<b>Indoor Coil</b>				
Type	Lanced/Intertwined	Lanced/Intertwined	Lanced/Intertwined	Lanced/Intertwined
Tube Size (in.)	0.375	0.375	0.375	0.375
Face Area (sq. ft.)	11.2	11.2	16.3	21.7
Rows/FPI (Fins per inch)	4/14	4/14	4/14	3/14
Refrigerant Control	Expansion Valve	Expansion Valve	Expansion Valve	Expansion Valve
Drain Connection Size (in.)	1 PVC	1 PVC	1 PVC	1 PVC
<b>Indoor Fan</b>				
Type	Centrifugal	Centrifugal	Centrifugal	Centrifugal
No. Used/Diameter x Width (in.)	1/15 x 15	1/15 x 15	2/15 x 15	2/15 x 15
Drive Type/No. Speeds	Belt/Adjustable	Belt/Adjustable	Belt/Adjustable	Belt/Adjustable
CFM (Nominal)	4,000	4,000	6,000	8,000
No. Motors	1	1	1	1
Motor HP - Standard/Oversized	2.0/3.0	2.0/3.0	3.0/5.0	3.0/5.0/7.5
Motor RPM	1725	1725	1,728/1,750	1,750/3,470
Motor Frame Size	56 Hz	56 Hz	56 Hz	184T
<b>Filters<sup>(a)</sup></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.)	61.2" x 30.5" x 69"	61.2" x 30.5" x 69"	76.3" x 33.3" x 85"	79.1" x 35.8" x 95"

**Notes:**

1. Constant volume 6-15 ton ships wired for 208/230V, field convertible 460V.
  2. Oversized motor not available on 41A/B and 4KA/B models.
- (a) One inch, throw-away filters shall be standard on TWE060, TWE072, TWE090, TWE120 model air handlers from the factory. The filter rack can be field converted to two inch capability. Two inch, throw-away filters shall be standard on TWE1804\*B and TWE2404\*B models.

**Table 10. General data — 6-20 tons (TWE0724\*B\* - TWE2404\*B\*) SZVAV and 2-speed VFD air handler — 60 Hz**

	6 Tons	7.5 Tons	10 Tons	10 Tons	15 Tons	20 Tons
	Dual Circuit TWE07243B*, 4B*, WB*	Dual Circuit TWE09043B*, 4B*, WB*	Single Circuit TWE12043A*, 4A*, WA*	Dual Circuit TWE12043B*, 4B*, WB*	Dual Circuit, TWE18043B*, 4B*, WB*	Dual Circuit, TWE24043B*, 4B*, WB*
<b>Indoor Fan</b>						
Type	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal
No. Used/Diameter x Width (in.)	1/15 x 15	1/15 x 15	1/15 x 15	1/15 x 15	2/15 x 15	2/15 x 15
Drive Type/No. Speeds	Belt/VFD Variable	Belt/VFD Variable	Belt/VFD Variable	Belt/VFD Variable	Belt/VFD Variable	Belt/VFD Variable
CFM (Nominal)	2,400	3,000	4,000	4,000	6,000	8,000
No. Motors	1	1	1	1	1	1
Motor HP - Standard/Oversized	2.0/3.0	2.0/3.0	2.0/3.0	2.0/3.0	3.0/5.0	5.0/7.5
Motor RPM	1725	1725	1725	1725	1725/3450	3450/3470
Motor Frame Size	56 Hz	56 Hz	56 Hz	56 Hz	56 Hz	56 Hz/184T



# Performance Data

## Gross Cooling Capacities

Table 11. Gross cooling capacities (MBH) 6 tons TWA0724\*A heat pump with 7.5 tons TWE0904\*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
2160	75	76.2	63.7	84.6	49.5	93.5	34.6	72.6	62.1	80.6	47.9	89.1	33.0	68.8	60.3	76.5	46.2	84.6	31.4
	80	76.3	75.2	84.4	61.2	93.6	46.5	72.7	72.7	80.7	59.7	89.3	44.9	68.9	68.9	76.6	58.0	84.7	43.3
	85	76.3	76.3	84.7	72.8	93.7	58.4	72.8	72.8	80.8	71.2	89.4	56.8	69.0	69.0	76.7	69.5	84.9	55.2
	90	76.4	76.4	84.8	84.3	93.7	70.2	72.8	72.8	80.9	80.9	89.4	68.5	69.0	69.0	76.8	76.8	84.9	66.9
2400	75	77.5	67.5	86.0	51.7	94.9	35.2	73.9	65.7	81.9	50.1	90.4	33.6	70.0	64.0	77.7	48.5	85.7	32.0
	80	77.6	77.6	86.0	64.8	95.0	48.4	74.0	74.0	82.0	63.1	90.5	46.9	70.1	70.1	77.8	61.3	85.9	45.2
	85	77.7	77.7	86.2	77.5	95.1	61.6	74.0	74.0	82.1	75.9	90.3	60.0	70.1	70.1	77.9	74.1	85.7	58.4
	90	77.7	77.7	86.2	86.2	95.2	74.6	74.0	74.0	82.2	82.2	90.7	72.9	70.2	70.2	78.0	78.0	86.1	71.2
2640	75	78.7	71.1	87.1	53.9	96.0	35.8	74.9	69.4	83.0	52.3	91.4	34.2	70.9	67.6	78.6	50.6	86.7	32.6
	80	78.8	78.8	87.2	68.1	96.2	50.3	75.0	75.0	83.1	66.4	91.6	48.7	71.0	71.0	78.8	64.7	86.8	47.1
	85	78.8	78.8	87.3	82.2	96.0	64.8	75.0	75.0	83.2	80.5	91.4	63.2	71.0	71.0	78.9	78.7	86.9	61.5
	90	78.8	78.8	87.4	87.4	96.4	78.9	75.1	75.1	83.3	83.3	91.8	77.3	71.1	71.1	78.9	78.9	87.1	75.6
2880	75	79.6	74.7	88.1	56.1	97.0	36.3	75.8	73.0	83.8	54.5	92.3	34.7	71.7	71.1	79.4	52.8	87.4	33.1
	80	79.7	79.7	88.2	71.4	97.1	52.2	75.8	75.8	84.0	69.7	92.5	50.6	71.8	71.8	79.6	68.0	87.6	49.0
	85	79.8	79.8	88.3	86.8	96.9	67.9	75.9	75.9	84.1	84.1	92.6	66.2	71.8	71.8	79.7	79.7	87.8	64.5
	90	79.8	79.8	88.4	88.4	97.4	83.2	75.9	75.9	84.1	84.1	92.7	81.6	71.8	71.8	79.7	79.7	87.9	79.9
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						
2160	75	64.8	58.4	72.2	44.5	79.9	29.7	60.6	56.5	67.5	42.7	74.7	28.0						
	80	64.9	64.9	72.3	56.2	80.0	41.7	60.7	60.7	67.6	54.3	74.9	39.9						
	85	65.0	65.0	72.4	67.7	79.8	53.5	60.7	60.7	67.8	65.8	74.7	51.7						
	90	65.0	65.0	72.5	72.5	80.2	65.2	60.7	60.7	67.8	67.8	75.2	63.3						
2400	75	65.9	62.1	73.2	46.7	80.9	30.3	61.5	60.1	68.4	44.9	75.6	28.5						
	80	66.0	66.0	73.3	59.5	81.1	43.6	61.6	61.6	68.6	57.6	75.8	41.8						
	85	66.0	66.0	73.5	72.3	80.8	56.7	61.6	61.6	68.7	68.7	76.0	54.8						
	90	66.0	66.0	73.5	73.5	81.3	69.5	61.6	61.6	68.8	68.8	76.1	67.7						
2640	75	66.7	65.7	74.1	48.9	81.7	30.9	62.2	62.2	69.2	47.0	76.3	29.1						
	80	66.8	66.8	74.2	62.8	81.9	45.5	62.3	62.3	69.4	60.9	76.6	43.7						
	85	66.8	66.8	74.3	74.3	82.0	59.7	62.4	62.4	69.5	69.5	76.7	58.2						
	90	66.9	66.9	74.4	74.4	82.1	73.8	62.4	62.4	69.5	69.5	76.9	72.0						
2880	75	67.4	67.4	74.8	51.0	82.4	31.4	62.8	62.8	69.8	49.2	76.9	29.7						
	80	67.5	67.5	74.9	66.1	82.6	47.3	62.9	62.9	70.0	64.2	77.2	45.5						
	85	67.5	67.5	75.0	75.0	82.7	63.1	63.0	63.0	70.1	70.1	77.4	60.9						
	90	67.6	67.6	75.1	75.1	82.9	78.1	63.0	63.0	70.2	70.2	77.5	76.2						

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

**Table 12. Gross cooling capacities (MBH) 6 tons TWA0724\*D heat pump with 6 tons 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
2160	75	73.2	61.8	81.4	47.8	90.3	33.4	70.1	60.3	78.0	46.4	86.6	32.0	66.9	58.8	74.4	45.0	82.6	30.6
	80	73.5	73.5	81.1	59.1	90.0	44.8	71.0	71.0	77.7	57.8	86.1	43.4	68.3	68.3	74.1	56.3	82.2	42.1
	85	77.5	77.5	81.1	70.4	89.6	56.2	74.9	74.9	77.6	69.0	85.8	54.9	72.1	72.1	74.2	67.6	81.9	53.5
	90	81.6	81.6	81.7	81.7	89.3	67.6	78.8	78.8	79.0	79.0	85.6	66.3	75.9	75.9	76.1	76.1	81.6	64.8
2400	75	74.6	65.2	82.7	49.9	91.6	33.9	71.5	63.8	79.3	48.5	87.8	32.6	68.2	62.3	75.6	47.0	83.7	31.2
	80	76.0	76.0	82.5	62.4	91.4	46.6	73.4	73.4	79.0	61.0	87.4	45.2	70.6	70.6	75.3	59.6	83.4	43.8
	85	80.2	80.2	82.7	74.8	91.1	59.2	77.5	77.5	79.2	73.4	87.1	57.9	74.5	74.5	75.7	72.0	83.1	56.4
	90	84.5	84.5	84.6	84.6	90.8	71.8	81.6	81.6	81.7	81.7	86.9	70.4	78.5	78.5	78.6	78.6	82.8	68.9
2640	75	75.9	68.6	83.9	51.9	92.8	34.5	72.7	67.2	80.3	50.5	88.8	33.2	69.0	66.5	76.5	49.0	84.6	31.7
	80	78.2	78.2	83.7	65.6	92.5	48.4	75.5	75.5	80.1	64.2	88.4	47.0	72.5	72.5	76.3	62.6	84.3	45.6
	85	82.6	82.6	84.1	79.2	92.2	62.2	79.6	79.6	80.6	77.7	88.2	60.8	76.6	76.6	77.0	75.9	84.0	59.3
	90	87.0	87.0	87.1	87.1	92.1	75.8	83.9	83.9	84.1	84.1	88.1	74.4	80.6	80.6	80.7	80.7	84.0	72.9
2880	75	76.7	72.8	84.8	53.9	93.8	35.1	73.6	70.7	81.2	52.4	89.7	33.7	70.0	70.0	77.3	51.0	85.4	32.2
	80	80.2	80.2	84.7	68.6	93.5	50.1	77.3	77.3	81.1	67.2	89.3	48.7	74.2	74.2	77.2	65.6	85.1	47.2
	85	84.7	84.7	85.4	83.4	93.2	65.0	81.6	81.6	81.9	81.4	89.0	63.6	78.4	78.4	78.6	78.6	84.8	62.1
	90	89.1	89.1	89.3	89.3	93.2	79.7	86.0	86.0	86.1	86.1	89.2	78.3	82.6	82.6	82.7	82.7	84.9	76.8
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						
2160	75	63.6	57.2	70.7	43.5	78.4	29.1	59.8	56.0	66.6	41.9	73.9	27.6						
	80	65.5	65.5	70.4	54.8	78.0	40.6	62.4	62.4	66.4	53.3	73.6	39.0						
	85	69.1	69.1	70.6	66.0	77.7	52.0	65.9	65.9	66.7	64.5	73.3	50.5						
	90	72.9	72.9	73.0	73.0	77.5	63.3	69.5	69.5	69.6	69.6	73.1	61.7						
2400	75	64.8	60.7	71.7	45.5	79.4	29.7	61.2	58.6	67.6	43.9	74.8	28.1						
	80	67.5	67.5	71.5	58.0	79.1	42.4	64.3	64.3	67.4	56.4	74.5	40.8						
	85	71.4	71.4	72.0	70.4	78.7	55.0	68.0	68.0	68.3	67.3	74.2	53.4						
	90	75.2	75.2	75.4	75.4	78.7	67.4	71.7	71.7	71.8	71.8	74.2	65.8						
2640	75	65.9	63.6	72.6	47.5	80.2	30.2	62.2	62.2	68.3	45.9	75.6	28.7						
	80	69.4	69.4	72.4	61.0	79.9	44.1	66.0	66.0	68.3	59.4	75.2	42.5						
	85	73.2	73.2	73.5	73.0	79.6	57.8	69.8	69.8	69.9	69.9	75.0	56.2						
	90	77.3	77.3	77.4	77.4	79.7	71.4	73.6	73.6	73.7	73.7	75.2	69.8						
2880	75	66.9	66.9	73.3	49.5	80.9	30.7	63.5	63.5	69.0	47.8	76.1	29.2						
	80	70.9	70.9	73.3	64.0	80.6	45.7	67.4	67.4	69.1	62.4	75.9	44.2						
	85	75.0	75.0	75.1	75.1	80.4	60.6	71.3	71.3	71.4	71.4	75.6	58.9						
	90	79.1	79.1	79.2	79.2	80.7	75.3	75.2	75.2	75.3	75.3	76.1	72.9						

**Notes:**

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



**Performance Data**

**Table 13. Gross cooling capacities (MBH) 7.5 tons TWA0904\*A heat pump with 7.5 tons TWE0904\*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
2700	75	88.5	76.5	97.9	58.3	107.9	39.6	84.4	74.6	93.2	56.5	102.7	37.8	80.1	72.7	88.3	54.5	97.2	35.9
	80	89.8	89.8	98.0	73.1	107.9	54.5	86.0	86.0	93.3	71.2	102.7	52.7	82.3	82.3	88.5	69.3	97.3	50.8
	85	94.5	94.5	98.4	87.9	108.0	69.3	90.9	90.9	93.9	86.1	102.8	67.5	87.0	87.0	89.1	83.7	97.4	65.6
	90	99.6	99.6	100.0	100.0	108.1	84.1	95.7	95.7	95.9	95.9	103.0	82.3	91.7	91.7	91.8	91.8	97.6	80.4
3000	75	90.2	81.3	99.4	61.1	109.4	40.4	85.9	79.0	94.6	59.2	104.0	38.5	81.5	77.0	89.5	57.2	98.4	36.6
	80	92.4	92.4	99.5	77.5	109.4	56.9	88.7	88.7	94.7	75.6	104.0	55.0	84.8	84.8	89.7	73.7	98.5	53.1
	85	97.6	97.6	100.2	93.5	109.5	73.3	93.7	93.7	95.6	91.6	104.1	71.5	89.6	89.6	90.7	89.6	98.6	69.6
	90	102.8	102.8	103.0	103.0	109.8	89.8	98.8	98.8	98.9	98.9	104.4	87.9	94.5	94.5	94.6	94.6	99.0	86.1
3300	75	91.6	85.5	100.7	63.8	110.6	41.1	87.3	83.6	95.7	61.9	105.1	39.2	82.8	81.6	90.6	59.9	99.4	37.3
	80	94.9	94.9	100.8	81.8	110.7	59.2	91.0	91.0	95.9	79.9	105.1	57.3	86.9	86.9	90.9	78.0	99.4	55.4
	85	100.2	100.2	101.9	99.4	110.8	77.3	96.2	96.2	97.1	97.1	105.2	75.5	91.9	91.9	92.3	92.3	99.6	73.5
	90	105.6	105.6	105.8	105.8	111.2	95.5	101.4	101.4	101.5	101.5	105.7	93.6	96.9	96.9	97.0	97.0	100.1	91.1
3600	75	92.9	90.2	101.7	66.5	111.7	41.7	88.6	88.2	96.7	64.6	106.0	39.8	84.0	84.0	91.4	62.6	100.2	37.9
	80	97.1	97.1	102.0	86.2	111.7	61.6	93.0	93.0	97.0	84.3	106.1	59.7	88.8	88.8	91.8	81.7	100.3	57.8
	85	102.6	102.6	103.4	103.4	111.8	81.3	98.3	98.3	98.6	98.6	106.2	79.4	93.9	93.9	94.0	94.0	100.4	77.5
	90	108.1	108.1	108.2	108.2	112.4	101.1	103.6	103.6	103.8	103.8	106.9	98.5	99.0	99.0	99.1	99.1	101.2	96.5
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						
2700	75	75.5	70.2	83.1	52.5	91.4	33.9	70.5	67.9	77.4	50.3	84.9	31.7						
	80	78.3	78.3	83.3	67.3	91.4	48.8	73.8	73.8	77.6	65.1	85.0	46.6						
	85	82.8	82.8	84.1	81.6	91.6	63.6	78.1	78.1	78.6	78.6	85.2	61.4						
	90	87.3	87.3	87.4	87.4	91.9	78.4	82.4	82.4	82.5	82.5	85.6	76.3						
3000	75	76.9	74.8	84.2	55.2	92.4	34.6	71.8	71.8	78.3	53.0	85.8	32.4						
	80	80.6	80.6	84.4	71.6	92.5	51.1	75.8	75.8	78.6	69.4	85.9	48.9						
	85	85.2	85.2	85.6	85.6	92.6	67.6	80.2	80.2	80.3	80.3	86.1	65.4						
	90	89.8	89.8	90.0	90.0	93.1	84.1	84.6	84.6	84.7	84.7	86.7	81.2						
3300	75	78.1	78.1	85.1	57.9	93.2	35.2	73.0	73.0	79.1	55.6	86.5	33.0						
	80	82.5	82.5	85.4	76.0	93.4	53.4	77.6	77.6	79.5	73.0	86.7	51.2						
	85	87.3	87.3	87.3	87.3	93.5	71.5	82.1	82.1	82.1	82.1	86.9	69.4						
	90	92.0	92.0	92.1	92.1	94.2	89.0	86.5	86.5	86.6	86.6	87.7	86.7						
3600	75	79.3	79.3	85.8	60.5	93.9	35.9	74.4	74.4	79.7	58.3	87.1	33.7						
	80	84.2	84.2	86.3	79.5	94.1	55.7	79.0	79.0	80.4	77.2	87.3	53.5						
	85	89.0	89.0	89.1	89.1	94.3	75.5	83.6	83.6	83.7	83.7	87.5	73.3						
	90	93.9	93.9	94.0	94.0	95.2	94.4	88.2	88.2	88.3	88.3	88.7	88.7						

**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

**Table 14. Gross cooling capacities (MBH) 7.5 tons TWA0904\*D heat pump with 7.5 tons TWE0904\*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
2700	75	89.2	75.5	99.2	58.3	109.5	40.4	85.8	73.9	95.2	56.7	105.1	38.8	82.2	72.3	91.1	55.0	100.4	37.2
	80	89.6	89.6	98.5	72.1	108.9	54.4	86.8	86.8	94.6	70.5	104.5	52.8	83.7	83.7	90.3	68.8	99.7	51.1
	85	94.4	94.4	98.2	86.0	108.2	68.3	91.3	91.3	94.4	84.4	103.6	66.6	88.0	88.0	90.3	82.7	99.0	65.0
	90	99.0	99.0	99.2	99.2	107.6	82.2	95.7	95.7	95.9	95.9	103.1	80.6	92.3	92.3	92.5	92.5	98.5	78.9
3000	75	90.9	79.8	100.7	60.8	111.1	41.1	87.4	78.2	96.6	59.1	106.6	39.5	83.6	76.5	92.4	57.5	101.7	37.8
	80	92.6	92.6	100.0	76.0	110.4	56.5	89.6	89.6	96.0	74.4	105.6	54.8	86.3	86.3	91.7	72.7	101.0	53.2
	85	97.5	97.5	100.0	91.3	109.8	71.8	94.2	94.2	96.1	89.7	105.0	70.2	90.7	90.7	91.9	88.1	100.3	68.5
	90	102.3	102.3	102.5	102.5	109.2	87.2	98.8	98.8	99.0	99.0	104.6	85.5	95.0	95.0	95.3	95.3	99.6	83.8
3300	75	92.4	83.9	102.0	63.2	112.4	41.8	88.3	83.5	97.8	61.5	107.7	40.2	84.7	81.0	93.4	59.8	102.7	38.5
	80	95.2	95.2	101.4	79.8	111.7	58.6	92.0	92.0	97.2	78.2	106.7	56.9	88.6	88.6	92.9	76.4	102.0	55.2
	85	100.2	100.2	101.7	96.6	111.0	75.3	96.6	96.6	97.5	94.9	106.2	73.6	93.1	93.1	93.5	92.4	101.3	72.0
	90	105.1	105.1	105.3	105.3	110.6	92.0	101.5	101.5	101.6	101.6	105.9	90.4	97.6	97.6	97.8	97.8	100.8	88.6
3600	75	93.9	88.1	102.9	65.4	113.4	42.4	89.9	86.5	98.8	63.8	108.7	40.8	85.8	85.8	94.3	62.1	103.6	39.1
	80	97.4	97.4	102.5	83.5	112.8	60.6	94.1	94.1	98.3	81.8	107.7	58.8	90.5	90.5	93.9	80.1	102.9	57.2
	85	102.5	102.5	103.2	101.7	112.1	78.7	98.8	98.8	99.1	98.8	107.1	77.0	95.1	95.1	95.2	95.2	102.2	75.4
	90	107.6	107.6	107.8	107.8	111.8	96.8	103.8	103.8	103.9	103.9	107.0	95.1	99.5	99.5	99.7	99.7	101.3	94.7
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						
2700	75	78.4	70.6	86.8	53.3	95.5	35.5	74.4	68.8	82.2	51.5	90.3	33.6						
	80	80.4	80.4	86.1	67.1	94.8	49.4	76.9	76.9	81.6	65.3	89.6	47.6						
	85	84.6	84.6	86.0	81.0	94.1	63.3	80.9	80.9	81.7	79.2	88.9	61.5						
	90	88.7	88.7	88.8	88.8	93.6	77.2	84.7	84.7	84.8	84.8	88.5	75.4						
3000	75	79.5	75.3	87.9	55.7	96.6	36.1	75.6	72.6	83.2	53.9	91.3	34.3						
	80	82.9	82.9	87.3	71.0	95.9	51.5	79.1	79.1	82.7	69.2	90.6	49.7						
	85	87.0	87.0	87.6	85.8	95.2	66.8	83.2	83.2	83.4	82.4	89.9	65.0						
	90	91.3	91.3	91.4	91.4	94.9	82.1	87.1	87.1	87.2	87.2	89.0	81.7						
3300	75	80.5	80.5	88.9	58.1	97.6	36.7	76.9	76.9	84.1	56.2	92.1	34.9						
	80	84.9	84.9	88.4	74.7	96.8	53.5	81.0	81.0	83.6	72.9	91.5	51.7						
	85	89.2	89.2	89.4	89.1	96.1	70.2	85.0	85.0	85.1	85.1	90.7	68.4						
	90	93.5	93.5	93.7	93.7	95.4	88.3	89.1	89.1	89.2	89.2	90.4	85.0						
3600	75	82.2	82.2	89.7	60.3	98.3	37.3	78.5	78.5	84.8	58.5	92.8	35.5						
	80	86.6	86.6	89.3	78.3	97.6	55.5	82.7	82.7	84.1	77.8	92.1	53.6						
	85	91.1	91.1	91.2	91.2	96.9	73.6	86.8	86.8	86.8	86.8	91.4	71.7						
	90	95.5	95.5	95.6	95.6	96.8	91.6	90.8	90.8	90.9	90.9	91.0	91.0						

**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) 10 tons TWA1204\*A heat pump with 10 tons TWE1204\*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
3600	75	118.2	100.8	131.0	77.5	144.6	53.4	113.3	98.6	125.4	75.3	138.3	51.2	108.1	96.2	119.5	72.9	131.7	48.8
	80	119.5	119.5	130.6	96.4	144.2	72.5	115.3	115.3	125.1	94.1	138.0	70.2	110.9	110.9	119.2	91.8	131.3	67.9
	85	125.9	125.9	130.9	115.2	143.9	91.4	121.6	121.6	125.5	113.0	137.6	89.2	116.9	116.9	119.7	110.6	131.0	86.9
	90	132.5	132.5	132.8	132.8	143.6	110.4	127.9	127.9	128.1	128.1	137.4	108.1	123.0	123.0	123.2	123.2	130.8	105.8
4000	75	120.4	106.6	133.0	80.9	146.6	54.3	115.4	104.3	127.3	78.6	140.1	52.1	110.1	101.9	121.2	76.2	133.3	49.7
	80	123.3	123.3	132.7	101.7	146.3	75.4	118.9	118.9	127.0	99.4	139.8	73.1	114.2	114.2	121.0	97.0	132.9	70.7
	85	130.1	130.1	133.3	122.5	145.9	96.3	125.5	125.5	127.8	120.2	139.4	94.0	120.5	120.5	121.9	117.9	132.6	91.7
	90	136.8	136.8	137.1	137.1	145.8	117.1	132.0	132.0	132.2	132.2	139.4	114.9	126.8	126.8	127.0	127.0	132.6	112.4
4400	75	122.4	112.2	134.7	84.2	148.3	55.2	117.2	109.9	128.8	81.9	141.6	53.0	111.8	107.5	122.6	79.5	134.7	50.6
	80	126.7	126.7	134.5	106.9	147.9	78.2	122.1	122.1	128.7	104.5	141.2	75.9	117.2	117.2	122.5	102.1	134.2	73.5
	85	133.7	133.7	135.5	129.7	147.6	101.0	128.8	128.8	129.9	127.4	140.9	98.7	123.6	123.6	124.0	124.0	133.9	96.4
	90	140.6	140.6	140.8	140.8	147.7	123.7	135.5	135.5	135.7	135.7	141.1	121.4	130.1	130.1	130.2	130.2	134.2	119.0
4800	75	124.1	117.7	136.1	87.3	149.7	56.1	118.0	118.0	130.1	85.0	142.9	53.8	113.1	113.1	123.7	82.6	135.7	51.4
	80	129.6	129.6	136.1	111.9	149.3	80.9	124.9	124.9	130.1	109.5	142.5	78.6	119.7	119.7	123.8	107.0	135.4	76.2
	85	136.8	136.8	137.6	136.7	148.9	105.7	131.7	131.7	132.0	132.0	142.2	103.4	126.3	126.3	126.5	126.5	135.0	100.9
	90	144.0	144.0	144.1	144.1	149.3	130.2	138.6	138.6	138.8	138.8	142.6	127.9	132.8	132.8	133.0	133.0	135.7	125.4
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						
3600	75	102.6	93.7	113.2	70.4	124.6	46.4	96.6	90.9	106.3	67.7	116.8	43.7						
	80	106.0	106.0	112.9	89.3	124.2	65.4	100.7	100.7	106.1	86.5	116.4	62.7						
	85	111.9	111.9	113.6	108.1	123.9	84.4	106.2	106.2	106.9	105.4	116.1	81.7						
	90	117.7	117.7	117.9	117.9	123.9	103.3	111.7	111.7	111.9	111.9	116.1	100.5						
4000	75	104.4	99.3	114.7	73.7	126.0	47.2	97.8	97.8	107.6	71.0	118.0	44.6						
	80	109.1	109.1	114.5	94.4	125.6	68.2	103.5	103.5	107.5	91.7	117.6	65.6						
	85	115.2	115.2	115.7	115.4	125.3	89.2	109.2	109.2	109.3	109.3	117.3	86.5						
	90	121.1	121.1	121.3	121.3	125.5	109.9	114.8	114.8	114.9	114.9	117.6	107.2						
4400	75	105.7	105.7	115.9	76.9	127.2	48.1	100.1	100.1	108.7	74.2	119.0	45.4						
	80	111.8	111.8	115.9	99.5	126.8	71.0	105.9	105.9	108.8	96.7	118.6	68.3						
	85	118.0	118.0	118.1	118.1	126.5	93.9	111.7	111.7	111.8	111.8	118.4	91.2						
	90	124.1	124.1	124.3	124.3	127.0	116.5	117.4	117.4	117.5	117.5	119.1	113.7						
4800	75	107.8	107.8	116.9	80.1	128.2	48.9	102.0	102.0	109.6	77.3	119.8	46.2						
	80	114.1	114.1	117.1	104.4	127.8	73.7	108.0	108.0	109.9	101.6	119.5	71.0						
	85	120.4	120.4	120.6	120.6	127.5	98.3	113.9	113.9	114.0	114.0	119.3	95.5						
	90	126.6	126.6	126.8	126.8	128.4	122.9	119.7	119.7	119.9	119.9	120.5	120.2						

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



**Table 16. Gross cooling capacities (MBH) 10 tons TWA1204\*D heat pump with 10 tons TWE1204\*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
3600	75	116.4	99.3	128.4	76.1	141.1	52.1	111.0	96.8	122.2	73.6	134.2	49.6	105.2	94.1	115.8	71.0	127.0	47.1
	80	117.7	117.7	128.2	94.7	140.9	70.9	113.0	113.0	122.0	92.2	133.9	68.4	108.1	108.1	115.6	89.6	126.8	65.9
	85	123.9	123.9	128.5	113.3	140.6	89.6	119.0	119.0	122.4	110.8	133.7	87.1	113.9	113.9	116.2	108.3	126.5	84.6
	90	130.1	130.1	130.3	130.3	140.5	108.3	125.0	125.0	125.2	125.2	133.6	105.8	119.6	119.6	119.8	119.8	126.6	103.3
4000	75	119.0	106.5	130.8	80.3	143.4	53.2	113.4	104.0	124.3	77.7	136.2	50.7	107.1	102.1	117.7	75.1	128.8	48.2
	80	122.3	122.3	130.6	101.4	143.2	74.5	117.3	117.3	124.2	98.8	136.0	72.0	112.0	112.0	117.6	96.2	128.6	69.5
	85	128.8	128.8	131.4	122.5	142.9	95.7	123.6	123.6	125.2	120.0	135.8	93.2	118.1	118.1	118.8	117.3	128.4	90.7
	90	135.3	135.3	135.5	135.5	143.0	116.8	129.8	129.8	130.0	130.0	136.0	114.3	124.1	124.1	124.2	124.2	128.7	111.8
4400	75	120.8	112.2	132.3	83.5	144.9	54.1	114.8	110.1	125.7	81.0	137.6	51.6	108.5	108.5	118.9	78.4	130.0	49.0
	80	125.4	125.4	132.2	106.5	144.6	77.3	120.2	120.2	125.7	104.0	137.3	74.8	114.7	114.7	119.0	101.3	129.7	72.3
	85	132.2	132.2	133.5	129.7	144.4	100.4	126.7	126.7	127.2	126.4	137.1	98.0	120.9	120.9	121.1	121.1	129.5	95.4
	90	138.9	138.9	139.0	139.0	144.7	123.5	133.1	133.1	133.2	133.2	137.5	121.0	127.0	127.0	127.2	127.2	130.1	118.4
4800	75	122.2	118.0	133.6	86.7	146.2	54.9	116.2	116.2	126.9	84.1	138.7	52.4	110.7	110.7	119.9	81.5	131.0	49.8
	80	128.2	128.2	133.7	111.6	145.9	80.0	122.7	122.7	127.0	109.0	138.4	77.5	117.0	117.0	120.2	106.3	130.7	75.0
	85	135.1	135.1	135.5	135.4	145.6	105.1	129.3	129.3	129.5	129.5	138.2	102.6	123.3	123.3	123.4	123.4	130.6	100.0
	90	141.9	141.9	142.1	142.1	146.3	130.0	135.9	135.9	136.0	136.0	138.1	129.7	129.6	129.6	129.7	129.7	131.1	125.3
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						
3600	75	99.3	91.4	109.0	68.3	119.5	44.5	92.7	88.7	101.8	65.5	111.4	41.8						
	80	102.8	102.8	108.9	87.0	119.3	63.3	97.1	97.1	101.7	84.1	111.2	60.6						
	85	108.4	108.4	109.6	105.6	119.0	82.0	102.4	102.4	102.9	101.1	111.0	79.3						
	90	113.9	113.9	114.1	114.1	119.2	100.7	107.6	107.6	107.7	107.7	111.2	97.9						
4000	75	101.3	98.2	110.7	72.5	121.1	45.6	94.9	94.9	103.2	69.6	112.8	42.8						
	80	106.4	106.4	110.7	93.5	120.9	66.9	100.4	100.4	103.4	90.6	112.6	64.1						
	85	112.2	112.2	112.5	112.3	120.6	88.1	105.8	105.8	105.9	105.9	112.4	85.3						
	90	117.9	117.9	118.1	118.1	121.1	109.1	111.2	111.2	111.3	111.3	112.7	106.7						
4400	75	103.0	103.0	111.8	75.7	122.1	46.4	96.9	96.9	104.1	72.8	113.6	43.6						
	80	108.9	108.9	112.0	98.6	121.9	69.6	102.5	102.5	104.5	95.7	113.4	66.8						
	85	114.7	114.7	114.9	114.9	121.7	92.7	108.1	108.1	108.2	108.2	113.3	89.9						
	90	120.6	120.6	120.7	120.7	122.1	116.2	113.5	113.5	113.6	113.6	113.7	113.7						
4800	75	104.9	104.9	112.6	78.8	123.0	47.2	98.7	98.7	104.9	75.9	114.4	44.4						
	80	111.0	111.0	113.1	103.6	122.7	72.3	104.4	104.4	105.3	100.8	114.1	69.6						
	85	117.0	117.0	117.1	117.1	122.6	97.3	110.0	110.0	110.1	110.1	114.2	94.5						
	90	122.9	122.9	123.0	123.0	123.1	123.1	115.5	115.5	115.6	115.6	115.7	115.7						

**Notes:**

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



**Performance Data**

**Table 17. Gross cooling capacities (MBH) 15 tons TWA1804\*D heat pump with 15 tons TWE1804\*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
5400	75	179.7	154.4	198.9	118.0	220.0	80.7	171.7	150.8	190.1	114.5	210.4	77.3	163.3	147.0	180.8	110.8	200.1	73.7
	80	181.4	181.4	198.8	147.5	219.7	110.5	173.9	173.9	190.0	144.0	210.1	107.0	166.2	166.2	180.7	140.3	199.8	103.5
	85	189.2	189.2	199.0	177.0	219.6	140.1	182.4	182.4	190.4	173.5	210.0	136.7	175.2	175.2	181.3	169.9	199.8	133.1
	90	199.0	199.0	200.9	199.0	219.5	169.6	192.0	192.0	193.1	193.1	209.9	166.2	184.5	184.5	185.0	185.0	199.7	162.7
6000	75	182.9	164.0	202.1	123.6	223.4	82.3	174.8	160.4	193.1	120.1	213.4	78.8	166.2	156.7	183.5	116.3	202.8	75.2
	80	185.8	185.8	202.0	156.4	223.1	115.3	178.5	178.5	193.0	152.8	213.1	111.9	170.9	170.9	183.4	149.1	202.6	108.3
	85	195.3	195.3	202.6	189.3	223.0	148.3	188.2	188.2	193.9	185.8	213.1	144.8	180.5	180.5	184.6	182.2	202.6	141.2
	90	205.6	205.6	206.3	206.3	222.7	181.0	198.2	198.2	198.5	198.5	213.0	177.7	190.3	190.3	190.6	190.6	202.7	174.1
6600	75	185.8	173.6	204.8	129.1	226.1	83.7	177.5	170.0	195.5	125.5	215.9	80.3	168.7	165.3	185.7	121.8	205.1	76.6
	80	190.2	190.2	204.8	165.1	225.9	120.1	183.0	183.0	195.5	161.6	215.7	116.6	175.3	175.3	185.7	157.8	204.9	113.0
	85	200.6	200.6	205.9	201.5	225.8	156.4	193.2	193.2	197.0	195.6	215.6	152.9	185.2	185.2	187.6	187.6	204.9	149.3
	90	211.3	211.3	211.5	211.5	225.8	192.5	203.6	203.6	203.9	203.9	215.8	189.1	195.4	195.4	195.6	195.6	205.3	185.6
7200	75	188.3	183.2	207.1	134.6	228.5	85.2	179.9	178.1	197.7	131.0	218.1	81.7	171.1	171.1	187.6	127.2	207.0	78.0
	80	194.5	194.5	207.1	173.9	228.3	124.9	187.1	187.1	197.7	170.3	217.9	121.4	179.1	179.1	187.8	166.6	206.9	117.8
	85	205.3	205.3	208.9	208.9	228.2	164.4	197.6	197.6	199.9	199.9	217.8	161.0	189.4	189.4	190.6	190.6	206.9	157.3
	90	216.4	216.4	216.6	216.6	228.5	204.0	208.4	208.4	208.6	208.6	218.3	200.6	199.9	199.9	200.1	200.1	205.1	194.1
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						
5400	75	154.5	143.2	170.9	107.0	189.2	70.0	145.2	139.1	160.5	102.9	177.5	66.0						
	80	158.4	158.4	170.9	136.4	189.1	99.7	150.4	150.4	160.4	132.4	177.4	95.8						
	85	167.4	167.4	171.8	166.2	189.0	129.4	159.1	159.1	161.7	160.0	177.4	125.4						
	90	176.6	176.6	176.8	176.8	189.0	159.0	167.9	167.9	168.1	168.1	177.6	155.1						
6000	75	157.2	152.8	173.4	112.4	191.7	71.4	147.8	146.4	162.6	108.4	179.7	67.4						
	80	163.1	163.1	173.4	145.2	191.5	104.5	154.6	154.6	162.7	141.2	179.6	100.5						
	85	172.4	172.4	174.9	174.6	191.5	137.5	163.6	163.6	164.8	164.8	179.6	133.5						
	90	182.0	182.0	182.2	182.2	191.8	170.4	172.8	172.8	173.1	173.1	177.8	165.8						
6600	75	159.6	159.1	175.4	117.9	193.7	72.8	150.1	150.1	164.4	113.8	181.4	68.8						
	80	167.1	167.1	175.5	154.0	193.6	109.3	158.3	158.3	164.7	149.9	181.4	105.2						
	85	176.8	176.8	178.0	178.0	193.6	145.5	167.6	167.6	168.1	168.1	181.5	141.5						
	90	186.7	186.7	186.9	186.9	191.8	180.2	177.2	177.2	177.4	177.4	181.0	173.5						
7200	75	161.9	161.9	177.1	123.3	195.4	74.2	152.4	152.4	165.9	119.1	182.9	70.2						
	80	170.6	170.6	177.4	162.7	195.4	114.0	161.5	161.5	166.4	158.7	183.0	109.9						
	85	180.6	180.6	181.0	181.0	195.4	153.6	171.1	171.1	171.3	171.3	183.0	149.5						
	90	190.8	190.8	191.0	191.0	194.8	187.9	180.9	180.9	181.1	181.1	183.7	181.2						

**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

**Table 18. Gross cooling capacities (MBH) 20 tons TWA2404\*D heat pump with 20 tons TWE2404\*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
7200	75	236.1	197.5	262.2	153.2	290.4	107.2	227.8	193.6	253.1	149.5	280.2	103.5	218.5	189.3	242.8	145.3	268.9	99.5
	80	236.3	233.1	262.3	189.8	290.3	143.9	228.0	228.0	253.2	186.0	280.1	140.2	218.7	218.7	242.9	181.7	268.8	136.1
	85	236.4	236.4	262.5	225.5	290.3	180.5	228.1	228.1	253.4	221.7	280.2	176.8	218.8	218.8	243.1	217.4	268.8	172.7
	90	236.5	236.5	262.7	261.2	290.4	216.9	228.2	228.2	253.6	253.6	280.2	213.2	218.9	218.9	243.3	243.3	268.9	209.0
8000	75	240.0	207.9	266.3	159.4	294.6	109.0	231.5	204.0	256.9	155.7	284.1	105.3	221.9	199.6	246.3	151.5	272.4	101.2
	80	240.2	240.2	266.4	199.3	294.4	149.2	231.7	231.7	257.0	195.5	284.0	145.5	222.1	222.1	246.4	191.2	272.3	141.4
	85	240.3	240.3	266.6	238.5	294.5	189.4	231.8	231.8	257.2	234.7	284.0	185.7	222.2	222.2	246.7	230.4	272.4	181.6
	90	240.4	240.4	266.8	266.8	294.6	229.2	231.9	231.9	257.4	257.4	284.1	225.4	222.3	222.3	246.8	246.8	272.5	221.2
8800	75	243.3	217.9	269.7	165.4	298.1	110.6	234.6	214.0	260.1	161.6	287.4	106.9	224.8	209.6	249.3	157.4	275.4	102.8
	80	243.5	243.5	269.8	208.6	297.9	154.4	234.8	234.8	260.2	204.7	287.2	150.7	224.9	224.9	249.4	200.4	275.2	146.5
	85	243.6	243.6	270.0	251.2	298.0	198.0	234.9	234.9	260.4	247.3	287.3	194.3	225.0	225.0	249.6	243.0	275.3	190.2
	90	243.7	243.7	270.2	270.2	298.1	241.1	234.9	234.9	260.6	260.6	287.4	237.3	225.1	225.1	249.7	249.7	275.5	233.0
9600	75	246.2	227.6	272.7	171.2	301.1	112.2	237.2	223.6	262.8	167.3	290.1	108.5	227.2	219.2	251.8	163.1	277.9	104.3
	80	246.3	246.3	272.8	217.6	300.9	159.4	237.4	237.4	263.0	213.6	289.9	155.6	227.4	227.4	251.9	209.3	277.7	151.5
	85	246.4	246.4	273.0	263.5	301.0	206.4	237.5	237.5	263.1	259.6	290.0	202.7	227.4	227.4	252.1	252.1	277.9	198.5
	90	246.5	246.5	273.1	273.1	301.1	252.6	237.5	237.5	263.3	263.3	290.2	248.8	227.5	227.5	252.2	252.2	278.0	244.5
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						
7200	75	208.6	184.8	231.7	140.9	256.4	95.0	197.8	179.8	219.4	136.0	242.4	90.2						
	80	208.8	208.8	231.8	177.2	256.3	131.7	197.9	197.9	219.6	172.2	242.3	126.8						
	85	208.9	208.9	232.0	212.9	256.4	168.3	198.0	198.0	219.8	207.9	242.4	163.5						
	90	209.0	209.0	232.2	232.2	256.5	204.5	198.1	198.1	219.9	219.9	242.5	199.5						
8000	75	211.7	195.0	234.9	146.9	259.6	96.7	200.5	190.0	222.2	142.0	245.2	91.8						
	80	211.9	211.9	235.0	186.6	259.5	137.0	200.7	200.7	222.4	181.6	245.1	132.0						
	85	212.0	212.0	235.2	225.8	259.6	177.2	200.8	200.8	222.6	220.7	245.2	172.2						
	90	212.0	212.0	235.4	235.4	259.7	216.7	200.8	200.8	222.7	222.7	245.4	211.6						
8800	75	214.3	204.9	237.5	152.8	262.3	98.3	202.8	199.8	224.6	147.8	247.6	93.3						
	80	214.4	214.4	237.7	195.7	262.1	142.0	202.9	202.9	224.7	190.6	247.4	137.1						
	85	214.5	214.5	237.9	237.9	262.2	185.7	203.0	203.0	224.9	224.9	247.6	180.8						
	90	214.6	214.6	238.0	238.0	262.4	228.4	203.1	203.1	225.0	225.0	247.7	223.3						
9600	75	216.5	214.5	239.8	158.5	264.5	99.8	204.8	204.8	226.6	153.5	249.5	94.8						
	80	216.6	216.6	240.0	204.6	264.3	147.0	204.9	204.9	226.7	199.4	249.4	142.0						
	85	216.7	216.7	240.1	240.1	264.5	194.0	205.0	205.0	226.9	226.9	249.5	189.1						
	90	216.7	216.7	240.2	240.2	264.6	239.9	205.0	205.0	227.0	227.0	249.7	234.8						

**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



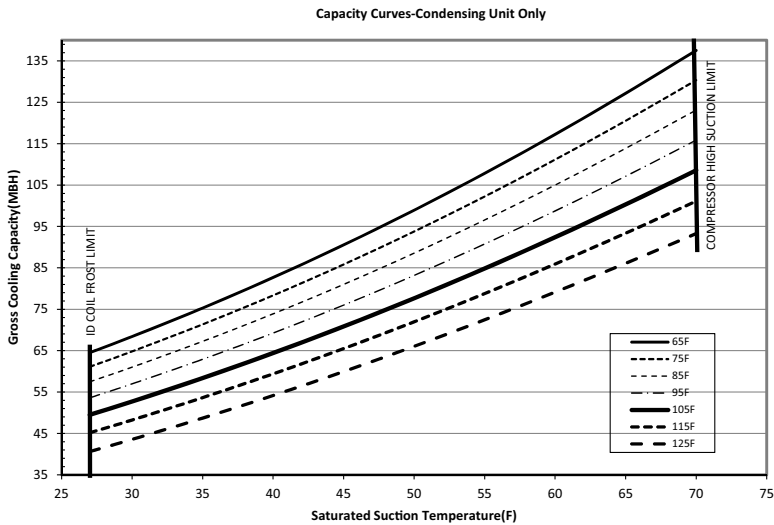
## Performance Data

**Table 19. Gross cooling capacities (MBH) 6 tons TWA0724\*A condensing unit only (IP)**

Outdoor Temp (°F)		Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	255.0	261.3	267.9	275.1	282.6	290.7
	Capacity (Btuh/1000)	68.4	75.3	82.7	90.5	98.9	107.8
	Unit Power (kW)	4.3	4.3	4.4	4.4	4.5	4.5
75	Head Press (psig)	292.9	299.5	306.6	314.0	321.9	330.3
	Capacity (Btuh/1000)	64.8	71.3	78.3	85.8	93.8	102.2
	Unit Power (kW)	4.7	4.7	4.8	4.8	4.9	5.0
85	Head Press (psig)	334.3	341.3	348.7	356.4	364.7	373.4
	Capacity (Btuh/1000)	61.0	67.2	73.9	81.0	88.6	96.6
	Unit Power (kW)	5.2	5.2	5.3	5.3	5.4	5.5
95	Head Press (psig)	379.4	386.6	394.3	402.4	410.9	419.8
	Capacity (Btuh/1000)	57.0	62.9	69.2	76.0	83.2	90.8
	Unit Power (kW)	5.7	5.7	5.8	5.8	5.9	6.0
105	Head Press (psig)	428.1	435.7	443.6	452.0	460.7	469.9
	Capacity (Btuh/1000)	52.7	58.4	64.4	70.8	77.6	84.8
	Unit Power (kW)	6.3	6.3	6.4	6.4	6.5	6.6
115	Head Press (psig)	480.8	488.6	496.7	505.1	513.9	523.1
	Capacity (Btuh/1000)	48.2	53.6	59.4	65.5	72.0	78.8
	Unit Power (kW)	6.9	7.0	7.0	7.1	7.1	7.2
125	Head Press (psig)	537.3	545.0	553.0	561.3	569.8	578.6
	Capacity (Btuh/1000)	43.6	48.7	54.2	59.9	66.0	72.5
	Unit Power (kW)	7.7	7.7	7.7	7.8	7.8	7.8

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

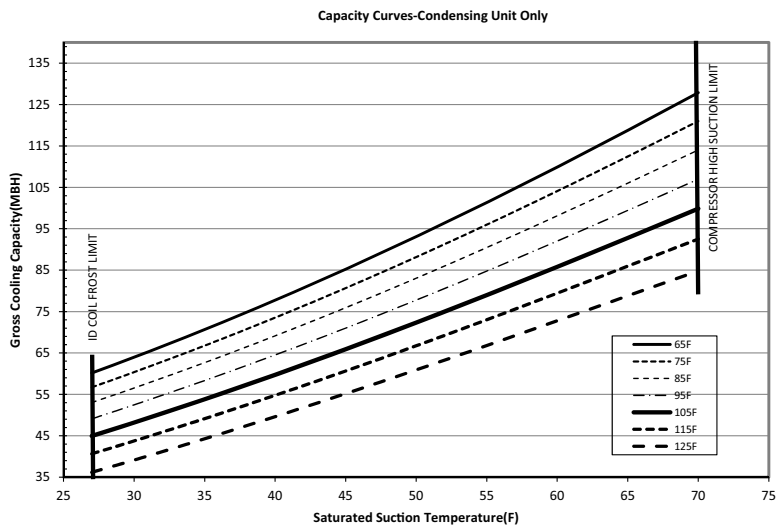
**Figure 7. TWA0724\*A capacity curves**



**Table 20. Gross cooling capacities (MBH) 6 tons TWA0724\*D condensing unit only (IP)**

Outdoor Temp (°F)		Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	247.2	252.8	258.7	264.9	271.4	278.2
	Capacity (Btuh/1000)	64.0	70.7	77.7	85.2	93.1	101.3
	Unit Power (kW)	3.9	3.9	4.0	4.0	4.1	4.1
75	Head Press (psig)	284.1	290.1	296.3	302.8	309.6	316.7
	Capacity (Btuh/1000)	60.4	66.8	73.5	80.7	88.2	96.0
	Unit Power (kW)	4.4	4.4	4.4	4.5	4.5	4.6
85	Head Press (psig)	324.6	330.9	337.4	344.3	351.3	358.7
	Capacity (Btuh/1000)	56.5	62.7	69.1	75.9	83.1	90.5
	Unit Power (kW)	4.9	4.9	5.0	5.0	5.1	5.1
95	Head Press (psig)	368.7	375.3	382.2	389.3	396.6	404.2
	Capacity (Btuh/1000)	52.5	58.3	64.5	71.0	77.8	84.8
	Unit Power (kW)	5.4	5.5	5.5	5.6	5.7	5.7
105	Head Press (psig)	416.6	423.5	430.7	438.1	445.7	453.4
	Capacity (Btuh/1000)	48.2	53.8	59.7	65.9	72.3	79.0
	Unit Power (kW)	6.1	6.1	6.2	6.2	6.3	6.4
115	Head Press (psig)	468.7	475.9	483.2	490.8	498.5	506.3
	Capacity (Btuh/1000)	43.8	49.1	54.8	60.6	66.7	73.0
	Unit Power (kW)	6.8	6.9	6.9	7.0	7.0	7.1
125	Head Press (psig)	524.9	532.2	539.6	547.1	554.7	562.4
	Capacity (Btuh/1000)	39.1	44.3	49.6	55.2	60.9	66.8
	Unit Power (kW)	7.6	7.7	7.7	7.8	7.8	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 8. TWA0724\*D capacity curves**




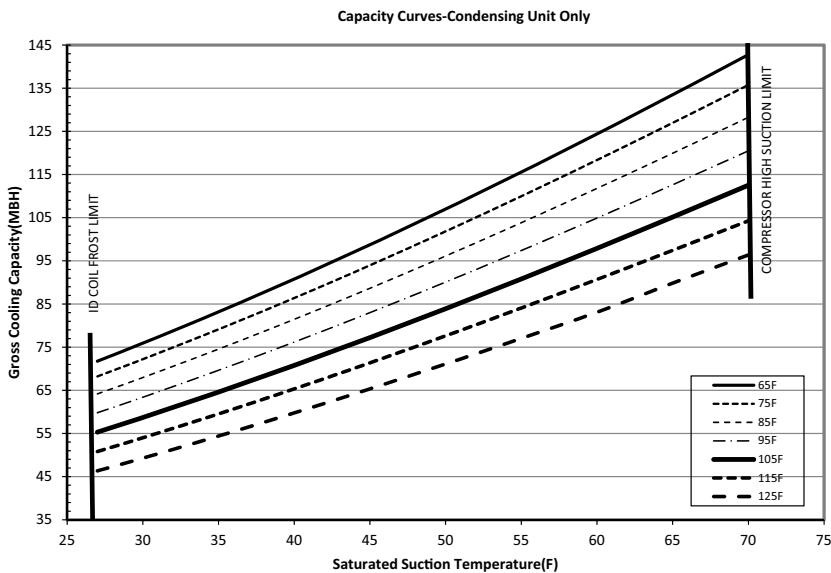
## Performance Data

**Table 21. Gross cooling capacities (MBH) 7.5 tons TWA0904\*A condensing unit only (IP)**

Outdoor Temp (°F)		Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	267.2	274.3	281.8	289.7	298.0	306.7
	Capacity (Btuh/1000)	79.8	87.9	96.5	105.7	115.3	125.5
	Unit Power (kW)	5.4	5.5	5.5	5.5	5.5	5.6
75	Head Press (psig)	306.0	313.5	321.3	329.6	338.3	347.3
	Capacity (Btuh/1000)	75.3	83.0	91.1	99.8	108.9	118.5
	Unit Power (kW)	6.1	6.2	6.2	6.2	6.3	6.3
85	Head Press (psig)	348.8	356.6	364.8	373.4	382.3	391.7
	Capacity (Btuh/1000)	70.9	78.1	85.8	93.9	102.5	111.5
	Unit Power (kW)	6.9	7.0	7.0	7.1	7.1	7.2
95	Head Press (psig)	395.7	403.8	412.2	421.0	430.2	439.8
	Capacity (Btuh/1000)	66.4	73.1	80.4	88.0	96.0	104.4
	Unit Power (kW)	7.8	7.9	7.9	8.0	8.0	8.1
105	Head Press (psig)	447.0	455.2	463.8	472.9	482.2	491.9
	Capacity (Btuh/1000)	61.7	68.1	74.8	81.9	89.4	97.3
	Unit Power (kW)	8.9	8.9	9.0	9.1	9.1	9.2
115	Head Press (psig)	502.6	510.9	519.5	528.6	537.9	547.4
	Capacity (Btuh/1000)	56.9	62.8	69.0	75.6	82.6	89.8
	Unit Power (kW)	10.0	10.1	10.2	10.2	10.3	10.3
125	Head Press (psig)	562.4	570.5	578.8	587.5	596.4	605.5
	Capacity (Btuh/1000)	51.7	57.1	62.8	68.9	75.3	81.9
	Unit Power (kW)	11.3	11.4	11.4	11.5	11.5	11.6

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

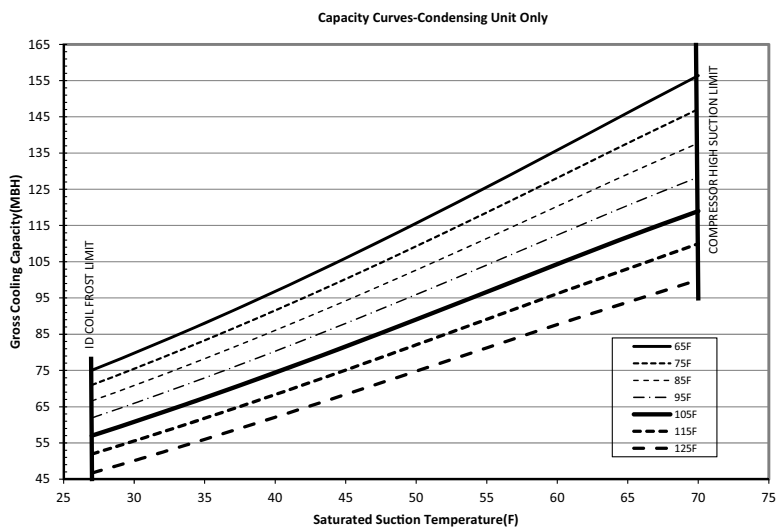
**Figure 9. TWA0904\*A capacity curves**



**Table 22. Gross cooling capacities (MBH) 7.5 tons TWA0904\*D condensing unit only (IP)**

Outdoor Temp (°F)		Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	255.1	261.4	268.0	274.8	281.9	289.5
	Capacity (Btuh/1000)	79.8	88.1	96.8	106.0	115.6	125.6
	Unit Power (kW)	4.9	4.9	5.0	5.0	5.1	5.1
75	Head Press (psig)	292.5	299.1	305.9	312.9	320.2	328.2
	Capacity (Btuh/1000)	75.5	83.3	91.6	100.3	109.3	118.6
	Unit Power (kW)	5.4	5.5	5.5	5.6	5.6	5.7
85	Head Press (psig)	333.3	340.1	347.1	354.4	361.8	370.2
	Capacity (Btuh/1000)	70.8	78.3	86.1	94.2	102.7	111.4
	Unit Power (kW)	6.0	6.1	6.1	6.2	6.2	6.3
95	Head Press (psig)	377.6	384.6	391.9	399.3	406.8	415.5
	Capacity (Btuh/1000)	65.9	73.0	80.3	88.0	96.0	104.1
	Unit Power (kW)	6.7	6.8	6.8	6.9	6.9	7.0
105	Head Press (psig)	425.6	432.8	440.2	447.8	455.4	464.1
	Capacity (Btuh/1000)	60.8	67.5	74.4	81.6	89.1	96.7
	Unit Power (kW)	7.6	7.6	7.6	7.7	7.7	7.8
115	Head Press (psig)	477.6	484.9	492.3	499.9	507.4	515.7
	Capacity (Btuh/1000)	55.5	61.8	68.3	75.1	82.1	89.1
	Unit Power (kW)	8.5	8.5	8.6	8.6	8.6	8.7
125	Head Press (psig)	533.4	540.5	547.8	555.1	562.3	569.5
	Capacity (Btuh/1000)	50.1	56.0	62.1	68.4	74.8	81.2
	Unit Power (kW)	9.6	9.6	9.6	9.7	9.7	9.7

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

**Figure 10. TWA0904\*D capacity curves**




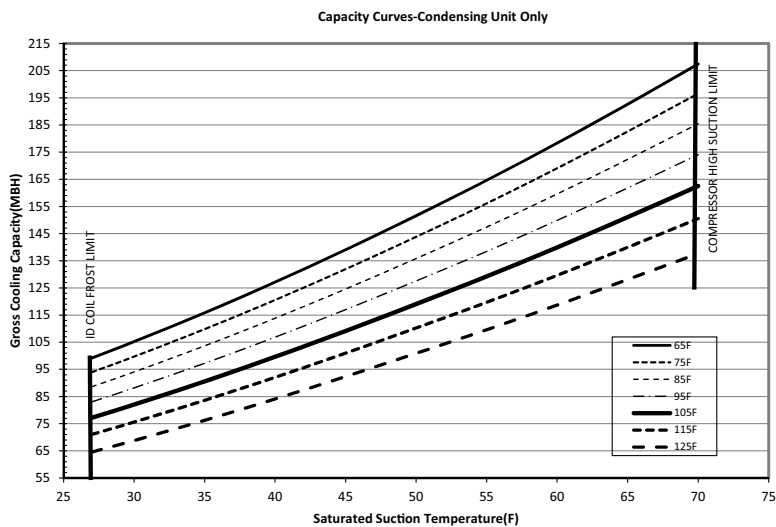
## Performance Data

**Table 23. Gross cooling capacities (MBH) 10 tons TWA1204\*A condensing unit only (IP)**

Outdoor Temp (°F)		Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	265.3	271.2	277.1	283.1	289.0	294.7
	Capacity (Btuh/1000)	105.2	115.8	127.1	139.1	151.6	164.6
	Unit Power (kW)	7.0	7.1	7.2	7.3	7.4	7.6
75	Head Press (psig)	303.8	309.8	315.9	322.0	327.9	333.7
	Capacity (Btuh/1000)	99.7	109.8	120.6	131.9	143.8	156.1
	Unit Power (kW)	7.6	7.7	7.8	7.9	8.0	8.1
85	Head Press (psig)	346.1	352.3	358.5	364.6	370.6	376.3
	Capacity (Btuh/1000)	94.1	103.6	113.8	124.6	135.8	147.4
	Unit Power (kW)	8.3	8.4	8.5	8.6	8.7	8.8
95	Head Press (psig)	392.4	398.7	405.0	411.1	417.0	422.5
	Capacity (Btuh/1000)	88.2	97.2	106.9	117.0	127.6	138.4
	Unit Power (kW)	9.1	9.2	9.3	9.4	9.5	9.6
105	Head Press (psig)	443.0	449.4	455.6	461.7	467.4	472.7
	Capacity (Btuh/1000)	82.0	90.6	99.6	109.1	119.1	129.2
	Unit Power (kW)	10.0	10.1	10.2	10.3	10.4	10.4
115	Head Press (psig)	498.0	504.3	510.4	516.2	521.6	526.4
	Capacity (Btuh/1000)	75.6	83.6	92.1	101.0	110.2	119.7
	Unit Power (kW)	11.0	11.1	11.2	11.3	11.3	11.4
125	Head Press (psig)	557.5	563.5	569.1	574.3	579.1	583.2
	Capacity (Btuh/1000)	68.8	76.2	84.1	92.4	100.9	109.6
	Unit Power (kW)	12.0	12.1	12.2	12.3	12.4	12.5

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

**Figure 11. TWA1204\*A capacity curves**

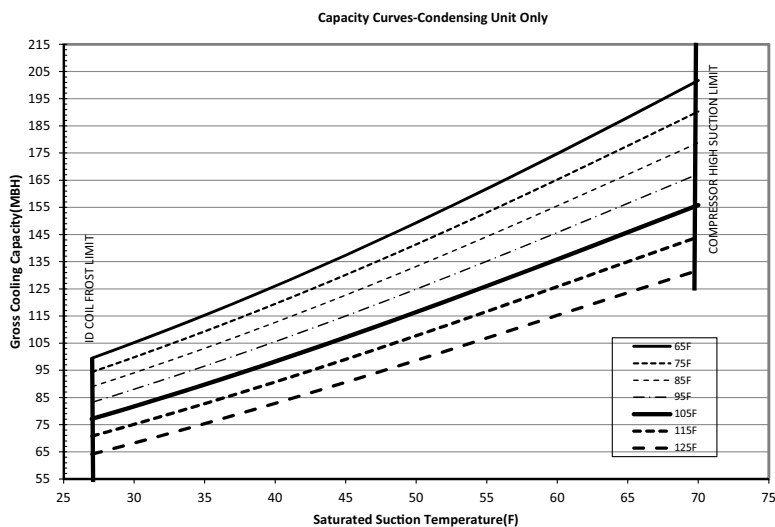




**Table 24. Gross cooling capacities (MBH) 10 tons TWA1204\*D condensing unit only (IP)**

Outdoor Temp (°F)		Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	252.9	258.6	264.6	270.9	277.5	284.4
	Capacity (Btuh/1000)	105.2	115.3	126.0	137.4	149.3	161.8
	Unit Power (kW)	6.5	6.6	6.7	6.8	6.9	7.0
75	Head Press (psig)	290.6	296.5	302.7	309.2	316.0	323.1
	Capacity (Btuh/1000)	99.8	109.3	119.5	130.1	141.4	153.1
	Unit Power (kW)	7.2	7.3	7.3	7.5	7.6	7.7
85	Head Press (psig)	331.9	338.0	344.4	351.2	358.1	365.3
	Capacity (Btuh/1000)	94.1	103.1	112.6	122.7	133.2	144.2
	Unit Power (kW)	7.9	8.0	8.1	8.2	8.4	8.5
95	Head Press (psig)	376.9	383.3	389.9	396.8	403.9	411.2
	Capacity (Btuh/1000)	88.1	96.6	105.6	115.0	124.9	135.2
	Unit Power (kW)	8.8	8.9	9.0	9.1	9.2	9.4
105	Head Press (psig)	425.8	432.4	439.3	446.3	453.6	461.0
	Capacity (Btuh/1000)	81.7	89.8	98.2	107.1	116.4	126.0
	Unit Power (kW)	9.8	9.9	10.0	10.1	10.2	10.4
115	Head Press (psig)	479.0	485.8	492.7	499.9	507.2	514.6
	Capacity (Btuh/1000)	75.1	82.7	90.7	99.1	107.7	116.7
	Unit Power (kW)	11.0	11.1	11.2	11.3	11.4	11.5
125	Head Press (psig)	536.3	543.1	550.0	557.1	564.2	571.3
	Capacity (Btuh/1000)	68.2	75.4	82.8	90.6	98.6	106.9
	Unit Power (kW)	12.4	12.4	12.5	12.6	12.7	12.8

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

**Figure 12. TWA1204\*D capacity curves**




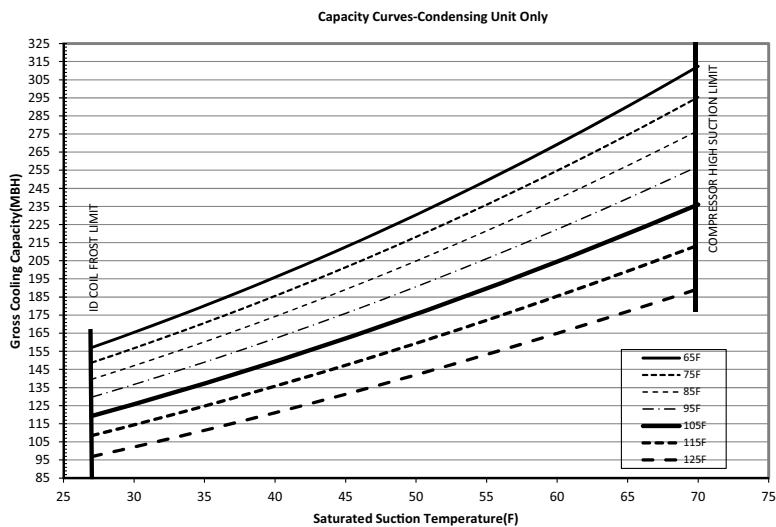
## Performance Data

**Table 25. Gross cooling capacities (MBH) 15 tons TWA1804\*D condensing unit only (IP)**

Outdoor Temp (°F)		Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	236.8	241.3	246.0	251.1	256.7	262.6
	Capacity (Btuh/1000)	165.5	180.2	195.9	212.6	230.4	249.3
	Unit Power (kW)	11.2	11.3	11.6	11.8	12.1	12.3
75	Head Press (psig)	272.9	277.6	282.6	287.9	293.7	299.8
	Capacity (Btuh/1000)	156.7	170.7	185.6	201.4	218.2	236.0
	Unit Power (kW)	12.1	12.3	12.5	12.7	12.9	13.2
85	Head Press (psig)	312.3	317.2	322.4	327.9	333.8	340.1
	Capacity (Btuh/1000)	147.1	160.3	174.3	189.1	204.9	221.6
	Unit Power (kW)	13.1	13.3	13.5	13.7	13.9	14.2
95	Head Press (psig)	355.2	360.2	365.5	371.1	377.2	383.8
	Capacity (Btuh/1000)	136.7	149.0	162.1	176.0	190.7	206.2
	Unit Power (kW)	14.2	14.4	14.6	14.8	15.0	15.3
105	Head Press (psig)	401.7	406.8	412.2	418.1	424.4	431.0
	Capacity (Btuh/1000)	125.8	137.3	149.4	162.1	175.6	189.8
	Unit Power (kW)	15.5	15.7	15.8	16.1	16.3	16.5
115	Head Press (psig)	452.2	457.4	462.9	468.7	474.8	481.3
	Capacity (Btuh/1000)	114.4	124.8	135.8	147.3	159.4	172.2
	Unit Power (kW)	16.9	17.1	17.3	17.5	17.7	17.9
125	Head Press (psig)	506.6	511.5	516.8	522.3	528.1	534.2
	Capacity (Btuh/1000)	102.2	111.4	121.1	131.3	142.0	153.3
	Unit Power (kW)	18.6	18.7	18.9	19.1	19.3	19.5

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

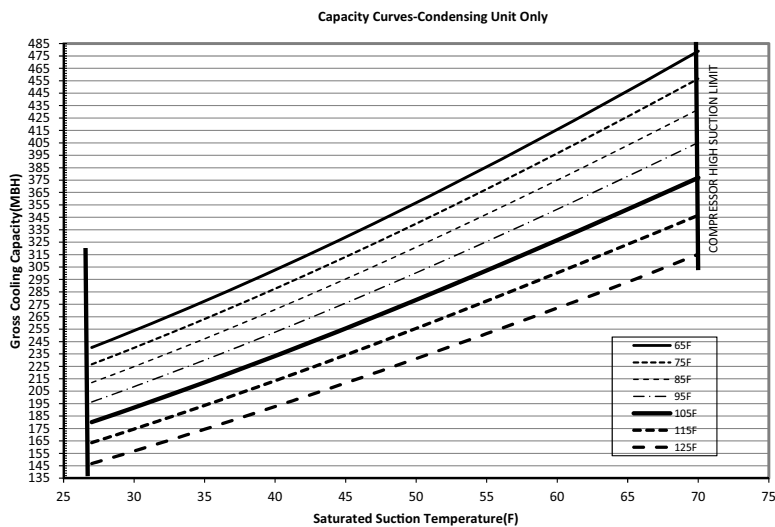
**Figure 13. TWA1804\*D capacity curves**



**Table 26. Gross cooling capacities (MBH) 20 tons TWA2404\*D condensing unit only (IP)**

Outdoor Temp (°F)		Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	267.8	275.1	282.8	291	299.8	309.1
	Capacity (Btuh/1000)	253.8	277.5	302.6	329	356.7	385.7
	Unit Power (kW)	15.9	16.2	16.5	16.9	17.2	17.6
75	Head Press (psig)	304.6	312.3	320.5	329.2	338.4	348.1
	Capacity (Btuh/1000)	240	263.1	287.6	313.2	340	367.8
	Unit Power (kW)	17.1	17.4	17.8	18.2	18.6	19
85	Head Press (psig)	344.6	352.7	361.3	370.3	379.9	390
	Capacity (Btuh/1000)	224.8	247.2	270.8	295.4	321	347.5
	Unit Power (kW)	18.6	19	19.3	19.7	20.2	20.6
95	Head Press (psig)	387.9	396.3	405.2	414.6	424.4	434.7
	Capacity (Btuh/1000)	208.7	230.1	252.6	276	300.4	325.5
	Unit Power (kW)	20.4	20.8	21.1	21.6	22	22.5
105	Head Press (psig)	434.8	443.4	452.5	462	472	482.5
	Capacity (Btuh/1000)	191.8	212.1	233.4	255.5	278.5	302.3
	Unit Power (kW)	22.5	22.9	23.2	23.6	24.1	24.6
115	Head Press (psig)	485.4	494	503.1	512.5	522.5	532.8
	Capacity (Btuh/1000)	174.5	193.5	213.5	234.2	255.6	277.7
	Unit Power (kW)	24.9	25.2	25.6	26	26.4	26.8
125	Head Press (psig)	539.4	547.7	556.4	565.6	575	584.9
	Capacity (Btuh/1000)	156.8	174.3	192.6	211.6	231.2	251.4
	Unit Power (kW)	27.6	27.9	28.1	28.5	28.8	29.2

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

**Figure 14. TWA2404\*D capacity curves**




Performance Data

## Gross Heating Capacities

**Table 27. Gross heating capacities (MBH) 6 tons TWA0724\*A heat pump with 7.5 tons TWE0904\*A standard air handler at 2400 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
-18	20.8	19.6	18.9	18.1	5.2	5.4	5.7	5.9
-13	24.1	22.9	22.2	21.4	5.1	5.5	5.8	6.0
-8	27.5	26.3	25.6	24.8	5.2	5.6	5.8	6.1
-3	30.9	29.7	29.0	28.2	5.2	5.6	5.9	6.2
2	34.5	33.2	32.4	31.6	5.3	5.7	6.0	6.2
7	38.0	36.7	36.0	35.2	5.3	5.8	6.0	6.3
12	41.7	40.3	39.5	38.7	5.4	5.8	6.1	6.4
17	45.6	44.1	43.3	42.4	5.5	5.9	6.2	6.4
22	49.7	48.0	47.1	46.2	5.5	6.0	6.2	6.5
27	53.9	52.1	51.2	50.2	5.6	6.1	6.3	6.6
32	58.3	56.4	55.4	54.4	5.7	6.1	6.4	6.7
37	62.7	60.6	59.6	58.5	5.7	6.2	6.5	6.7
42	67.3	65.0	63.9	62.8	5.8	6.3	6.5	6.8
47	72.2	69.7	68.5	67.3	5.9	6.4	6.6	6.9
52	77.2	74.6	73.3	72.0	5.9	6.4	6.7	7.0
57	82.5	79.7	78.2	76.8	6.0	6.5	6.8	7.1
62	87.9	84.9	83.3	81.8	6.1	6.6	6.9	7.2
67	93.5	90.2	88.6	87.0	6.2	6.7	7.0	7.3
72	99.2	95.7	93.9	92.2	6.3	6.8	7.1	7.4

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 28. Gross heating capacities (MBH) 6 tons TWA0724\*D heat pump with 6 tons TWE0724\*B standard air handler at 2400 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
-18	15.2	13.2	12.0	10.8	4.0	4.4	4.6	4.9
-13	17.8	15.9	14.7	13.5	4.0	4.5	4.7	5.0
-8	20.5	18.5	17.6	16.8	4.2	4.7	4.9	5.2
-3	23.3	21.7	21.0	20.2	4.3	4.8	5.1	5.3
2	26.5	25.2	24.4	23.7	4.5	4.9	5.2	5.5
7	30.1	28.7	28.0	27.3	4.6	5.0	5.3	5.6
12	33.6	32.2	31.5	30.8	4.7	5.1	5.4	5.7
17	37.5	36.0	35.3	34.5	4.7	5.2	5.5	5.8
22	41.5	40.0	39.2	38.4	4.8	5.3	5.6	5.9
27	45.7	44.1	43.3	42.4	4.9	5.4	5.6	5.9
32	50.1	48.4	47.5	46.6	4.9	5.4	5.7	6.0
37	54.6	52.7	51.7	50.8	5.0	5.5	5.8	6.1
42	59.1	57.0	56.0	55.0	5.1	5.6	5.9	6.2
47	63.8	61.6	60.6	59.5	5.1	5.7	5.9	6.2
52	68.9	66.6	65.5	64.3	5.2	5.7	6.0	6.3
57	74.2	71.7	70.5	69.3	5.3	5.8	6.1	6.4
62	79.7	77.0	75.7	74.3	5.4	5.9	6.2	6.5
67	85.3	82.4	80.9	79.5	5.5	6.0	6.3	6.6
72	91.1	88.0	86.4	84.9	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 29. Gross heating capacities (MBH) 7.5 tons TWA0904\*A heat pump with 7.5 tons TWE0904\*A standard air handler at 2625 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
-18	26.5	26.7	27.1	27.5	6.3	6.9	7.3	7.7
-13	30.2	30.4	30.7	31.1	6.3	7.0	7.4	7.8
-8	34.1	34.1	34.4	34.7	6.4	7.1	7.5	7.9
-3	38.2	38.0	38.2	38.5	6.4	7.1	7.5	8.0
2	42.1	42.1	42.1	42.3	6.5	7.2	7.6	8.0
7	46.0	45.8	45.9	46.0	6.5	7.3	7.7	8.1
12	50.3	49.9	49.9	50.0	6.6	7.3	7.7	8.2
17	54.8	54.3	54.2	54.2	6.6	7.4	7.8	8.3
22	59.5	58.8	58.7	58.6	6.7	7.4	7.9	8.3
27	64.4	63.6	63.3	63.1	6.7	7.5	7.9	8.4
32	69.6	68.6	68.2	67.9	6.8	7.6	8.0	8.5
37	74.8	73.6	73.1	72.7	6.8	7.6	8.0	8.5
42	80.1	78.6	78.0	77.5	6.9	7.7	8.1	8.6
47	85.7	84.0	83.2	82.6	6.9	7.7	8.2	8.6
52	91.5	89.5	88.6	87.8	7.0	7.8	8.2	8.7
57	97.4	95.1	94.0	93.0	7.0	7.8	8.3	8.8
62	103.8	101.2	99.9	98.8	7.1	7.9	8.4	8.9
67	110.6	107.6	106.1	104.7	7.2	8.0	8.5	8.9
72	116.4	113.9	111.7	110.4	7.5	8.1	8.7	9.0

**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 30. Gross heating capacities (MBH) 7.5 tons TWA0904\*D heat pump with 7.5 tons TWE0904\*B standard air handler at 3000 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
-18	21.8	21.2	20.8	20.3	6.0	6.7	7.0	7.4
-13	25.3	24.7	24.3	23.7	6.0	6.7	7.0	7.4
-8	28.9	28.3	28.0	27.6	6.0	6.7	7.0	7.4
-3	32.7	32.2	31.8	31.4	6.0	6.7	7.1	7.4
2	36.8	36.0	35.6	35.2	6.1	6.7	7.1	7.5
7	40.9	40.1	39.7	39.2	6.1	6.8	7.1	7.5
12	45.3	44.3	43.8	43.3	6.2	6.8	7.2	7.6
17	49.9	49.0	48.2	47.7	6.2	6.9	7.2	7.6
22	54.8	53.5	52.8	52.1	6.3	6.9	7.3	7.7
27	59.8	58.3	57.6	56.7	6.3	7.0	7.3	7.7
32	65.1	63.4	62.5	61.6	6.4	7.0	7.4	7.8
37	70.4	68.4	67.3	66.4	6.5	7.1	7.5	7.8
42	75.7	73.4	72.3	71.1	6.5	7.2	7.5	7.9
47	81.2	78.6	77.4	76.1	6.6	7.2	7.6	8.0
52	86.9	84.2	82.8	81.5	6.7	7.3	7.7	8.0
57	93.1	90.0	88.5	87.0	6.8	7.4	7.7	8.1
62	99.4	96.1	94.4	92.9	6.9	7.5	7.8	8.2
67	106.1	102.4	100.6	98.8	7.0	7.6	8.0	8.3
72	112.8	108.7	106.6	104.5	7.1	7.7	8.0	8.4

**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.



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**Table 31. Gross heating capacities (MBH) 10 tons TWA1204\*A heat pump with 10 tons TWE1204\*A standard air handler at 4000 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
-18	33.9	33.9	33.9	33.9	8.0	8.7	9.0	9.4
-13	38.8	38.7	38.7	38.7	8.2	8.9	9.3	9.7
-8	43.9	43.7	43.7	43.6	8.4	9.2	9.5	9.9
-3	49.3	48.9	48.8	48.7	8.6	9.4	9.7	10.1
2	54.9	54.4	54.2	54.0	8.8	9.5	9.9	10.3
7	60.8	60.1	59.9	59.6	8.9	9.7	10.1	10.5
12	66.6	65.9	65.5	65.1	9.1	9.9	10.3	10.7
17	73.1	72.1	71.6	71.2	9.2	10.0	10.4	10.9
22	79.9	78.7	78.1	77.6	9.4	10.2	10.6	11.0
27	87.1	85.6	84.9	84.2	9.5	10.3	10.7	11.2
32	94.9	93.0	92.1	91.3	9.6	10.4	10.8	11.3
37	102.2	100.2	99.2	98.2	9.7	10.5	10.9	11.4
42	109.9	107.6	106.5	105.4	9.8	10.6	11.0	11.5
47	118.0	115.4	114.1	112.8	9.9	10.7	11.1	11.6
52	126.4	123.3	121.8	120.4	10.0	10.8	11.2	11.7
57	134.7	131.3	129.6	127.9	10.0	10.8	11.3	11.7
62	142.8	138.8	136.9	135.0	10.1	10.9	11.3	11.8
67	150.9	146.6	144.5	142.4	10.2	11.0	11.5	11.9
72	160.0	155.3	153.0	150.7	10.4	11.2	11.7	12.1

**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 32. Gross heating capacities (MBH) 10 tons TWA1204\*D heat pump with 10 tons TWE1204\*B standard air handler at 4000 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
-18	33.8	32.8	32.1	31.5	7.6	8.3	8.7	9.1
-13	38.2	37.2	36.6	35.9	7.7	8.4	8.8	9.3
-8	42.9	41.9	41.3	40.6	7.8	8.6	9.0	9.4
-3	47.9	46.8	46.1	45.5	7.9	8.7	9.1	9.6
2	53.1	51.9	51.4	50.5	8.1	8.8	9.2	9.7
7	58.5	57.4	56.6	55.9	8.2	8.9	9.4	9.8
12	64.0	62.6	61.8	61.1	8.3	9.1	9.5	10.0
17	70.0	68.4	67.6	66.8	8.4	9.2	9.6	10.1
22	76.3	74.5	73.6	72.7	8.5	9.3	9.8	10.2
27	82.9	80.9	79.9	79.0	8.6	9.4	9.9	10.4
32	90.0	87.8	86.7	85.7	8.7	9.6	10.0	10.5
37	96.8	94.3	93.1	91.9	8.9	9.7	10.1	10.6
42	103.9	101.2	99.8	98.6	9.0	9.8	10.3	10.8
47	111.4	108.4	106.9	105.5	9.1	9.9	10.4	10.9
52	119.2	115.9	114.2	112.7	9.2	10.1	10.6	11.1
57	127.1	123.5	121.7	120.0	9.4	10.3	10.7	11.2
62	135.0	131.0	129.1	127.2	9.5	10.4	10.9	11.4
67	142.7	138.3	136.2	134.2	9.7	10.6	11.0	11.5
72	150.1	145.3	142.9	140.6	9.9	10.7	11.2	11.7

**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 33. Gross heating capacities (MBH) 15 tons TWA1804\*D heat pump with 15 tons TWE1804\*B standard/SZVAV handler at 6000 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
-18	54.6	53.6	53.1	52.4	12.3	13.3	13.8	14.4
-13	62.8	61.7	60.9	60.3	12.5	13.5	14.1	14.6
-8	71.2	69.6	68.9	68.1	12.7	13.7	14.3	14.9
-3	79.7	77.9	76.9	76	12.9	13.9	14.5	15.1
2	88.3	86.2	85.1	84	13.1	14.1	14.7	15.3
7	97.1	94.7	93.5	92.3	13.3	14.3	14.9	15.5
12	105.4	102.7	101.4	100	13.5	14.6	15.2	15.8
17	114.6	111.7	110.2	108.7	13.7	14.8	15.4	16
22	124.2	120.9	119.2	117.6	13.9	15	15.6	16.2
27	134.4	130.5	128.7	126.8	14.1	15.2	15.8	16.5
32	144.9	140.8	138.8	136.8	14.4	15.5	16.1	16.7
37	155	150.6	148.4	146.2	14.6	15.7	16.3	17
42	165.7	160.9	158.5	156.1	14.9	16	16.6	17.2
47	177.2	172.1	169.5	166.9	15.2	16.3	16.9	17.5
52	189.5	183.9	181.1	178.4	15.5	16.6	17.2	17.9
57	202.2	196.2	193.2	190.3	15.8	17	17.6	18.2
62	215.3	208.9	205.7	202.6	16.2	17.3	18	18.6
67	228.9	222.1	218.7	215.5	16.6	17.7	18.4	19
72	243.1	235.7	232.1	228.7	17	18.2	18.8	19.5

**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 34. Gross heating capacities (MBH) 20 tons TWA2404\*D heat pump with 20 tons TWE2404\*B standard/SZVAV air handler at 8000 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
-18	71.1	62.9	59.5	56.7	16.0	17.6	18.7	19.8
-13	79.7	71.9	68.9	66.1	16.4	18.0	19.1	20.2
-8	89.1	82.0	79.1	76.3	16.8	18.4	19.5	20.6
-3	100.1	93.1	90.1	87.2	17.2	18.9	19.8	21.0
2	111.9	104.8	101.8	99.0	17.6	19.3	20.3	21.4
7	124.4	117.4	114.3	111.5	18.0	19.7	20.7	21.8
12	137.9	130.8	127.6	124.7	18.5	20.1	21.1	22.2
17	152.2	145.0	141.8	138.8	18.9	20.6	21.5	22.6
22	167.4	160.1	156.8	153.6	19.3	21.0	22.0	23.1
27	183.5	176.0	172.5	169.2	19.7	21.5	22.5	23.6
32	200.5	192.8	189.1	185.6	20.2	21.9	22.9	24.0
37	217.6	209.6	205.8	202.1	20.6	22.4	23.4	24.5
42	235.4	227.1	223.1	219.3	21.1	22.9	23.9	25.0
47	254.0	245.5	241.3	237.3	21.6	23.4	24.4	25.5
52	273.9	265.0	260.7	256.4	22.1	24.0	25.0	26.1
57	294.1	285.0	280.4	276.0	22.6	24.6	25.6	26.7
62	314.9	305.4	300.7	296.1	23.2	25.2	26.2	27.4
67	336.3	326.4	321.5	316.7	23.8	25.8	26.9	28.0
72	358.2	347.9	342.8	337.7	24.4	26.5	27.6	28.7

**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.



## Performance Data

### Fan Performance

*Important: Additional external static pressure from accessories must be added to the design static pressure from the accessory pressure tables. See Table 52, p. 63.*

**Table 35. Evaporator fan performance – TWE060 – constant volume air handler**

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"		1.10"	
CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
<b>3/4 HP Standard Motor</b>											<b>1.5 HP High Static Motor</b>												
1600	—	—	738	0.33	790	0.38	840	0.44	888	0.50	936	0.56	980	0.62	1025	0.69	1070	0.76	1111	0.83	1152	0.91	
1700	719	0.33	771	0.38	821	0.44	869	0.50	914	0.56	959	0.62	1003	0.68	1047	0.75	1089	0.82	1129	0.90	1170	0.98	
1800	756	0.39	804	0.44	853	0.50	898	0.56	942	0.62	985	0.69	1028	0.75	1068	0.82	1109	0.89	1149	0.97	1187	1.05	
1900	792	0.45	838	0.51	884	0.57	928	0.63	971	0.69	1012	0.76	1052	0.83	1092	0.90	1131	0.97	1170	1.05	1207	1.13	
2000	829	0.52	873	0.58	917	0.64	959	0.71	1000	0.77	1040	0.84	1079	0.91	1117	0.98	1155	1.06	1192	1.14	1227	1.21	
2100	866	0.60	908	0.66	950	0.72	991	0.79	1030	0.86	1069	0.93	1106	1.00	1144	1.08	1179	1.15	1215	1.23	1250	1.31	
2200	903	0.68	944	0.74	983	0.81	1023	0.88	1061	0.95	1099	1.02	1134	1.10	1170	1.18	1206	1.26	1241	1.34	1274	1.42	
2300	940	0.78	979	0.84	1017	0.90	1055	0.97	1093	1.05	1129	1.13	1164	1.21	1198	1.28	1232	1.37	1266	1.45	1299	1.53	
2400	978	0.88	1015	0.94	1052	1.01	1089	1.08	1125	1.16	1160	1.24	1194	1.32	1227	1.40	1259	1.48	1292	1.57	—	—	
External Static Pressure (Inches of Water Gauge)																							
		1.20"		1.30"		1.40"																	
CFM	RPM	BHP	RPM	BHP	RPM	BHP																	
<b>1.5 HP High Static Motor</b>																							
1600	1191	0.99	1229	1.07	1264	1.14																	
1700	1208	1.06	1246	1.14	1281	1.22																	
1800	1226	1.13	1263	1.22	1300	1.30																	
1900	1245	1.21	1281	1.30	1317	1.39																	
2000	1265	1.30	1300	1.39	1335	1.48																	
2100	1285	1.39	1319	1.48	—	—																	
2200	1308	1.50	—	—	—	—																	
2300	—	—	—	—	—	—																	
2400	—	—	—	—	—	—																	

**Notes:**

1. Data includes pressure drop due to wet coil and 1" filter.
2. Fan motor heat (MBh) = 3.15 x BHP.
3. Check General Data for indoor fan motor HP availability.
4. For 380/60Hz models: Performance is limited to standard motor CFM/static range. No high static or oversized motors are available.
5. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.



**Table 36. Evaporator fan performance – TWE072 – constant volume air handler**

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"		1.10"														
CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP												
1.5 HP Standard Motor with Field Supplied Sheave and Belt											1.5 HP Standard Motor																									
1920	-	-	410	0.25	466	0.31	516	0.37	567	0.44	614	0.52	659	0.61	701	0.69	741	0.78	778	0.88	814	0.97	567	0.44	614	0.52	659	0.61	701	0.69	741	0.78	778	0.88	814	0.97
2040	-	-	422	0.28	476	0.34	524	0.41	572	0.48	618	0.56	663	0.65	704	0.74	744	0.83	782	0.92	817	1.02	572	0.48	618	0.56	663	0.65	704	0.74	744	0.83	782	0.92	817	1.02
2160	-	-	434	0.32	486	0.39	533	0.45	578	0.52	623	0.60	666	0.69	708	0.78	747	0.88	784	0.97	820	1.08	578	0.52	623	0.60	666	0.69	708	0.78	747	0.88	784	0.97	820	1.08
2280	396	0.31	447	0.37	496	0.43	543	0.50	586	0.57	629	0.65	671	0.74	711	0.83	750	0.93	788	1.03	823	1.13	586	0.57	629	0.65	671	0.74	711	0.83	750	0.93	788	1.03	823	1.13
2400	411	0.35	460	0.41	507	0.48	553	0.55	595	0.62	635	0.70	676	0.79	716	0.88	754	0.98	791	1.08	826	1.19	595	0.62	635	0.70	676	0.79	716	0.88	754	0.98	791	1.08	826	1.19
2520	426	0.40	474	0.46	519	0.53	563	0.61	605	0.68	644	0.76	682	0.85	721	0.94	758	1.04	794	1.14	829	1.25	605	0.68	644	0.76	682	0.85	721	0.94	758	1.04	794	1.14	829	1.25
2640	442	0.45	488	0.52	531	0.59	574	0.67	615	0.75	653	0.83	690	0.91	726	1.00	763	1.10	799	1.21	833	1.32	615	0.75	653	0.83	690	0.91	726	1.00	763	1.10	799	1.21	833	1.32
2760	457	0.51	502	0.58	544	0.65	585	0.73	625	0.81	662	0.90	698	0.98	733	1.07	769	1.17	803	1.28	837	1.39	625	0.81	662	0.90	698	0.98	733	1.07	769	1.17	803	1.28	837	1.39
2880	473	0.58	517	0.65	557	0.72	596	0.80	635	0.89	672	0.97	707	1.06	741	1.15	775	1.25	809	1.35	842	1.46	635	0.89	672	0.97	707	1.06	741	1.15	775	1.25	809	1.35	842	1.46
External Static Pressure (Inches of Water Gauge)																																				
		1.20"		1.30"		1.40"		1.50"		1.60"		1.70"		1.80"		1.90"		2.00"		2.10"		2.20"														
CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP												
2 HP High Static Motor											3 HP Ultra High Static Motor																									
1920	848	1.06	880	1.16	911	1.26	940	1.35	968	1.45	995	1.54	1021	1.64	1046	1.74	1071	1.84	1095	1.94	1118	2.03	1095	1.94	1118	2.03	1141	2.13	1163	2.24	1185	2.34	1206	2.44		
2040	851	1.12	884	1.22	915	1.32	945	1.43	973	1.53	1001	1.63	1027	1.73	1052	1.83	1077	1.94	1101	2.04	1125	2.14	1101	2.04	1125	2.14	1167	2.24	1189	2.35	1213	2.46	1237	2.57		
2160	854	1.18	887	1.28	918	1.39	948	1.50	977	1.60	1005	1.71	1032	1.82	1058	1.93	1083	2.04	1107	2.14	1131	2.25	1107	2.14	1131	2.25	1177	2.25	1201	2.36	1226	2.47	1251	2.58		
2280	857	1.24	890	1.34	921	1.45	952	1.57	981	1.68	1009	1.79	1036	1.90	1063	2.02	1088	2.14	1113	2.25	1136	2.36	1113	2.25	1136	2.36	1183	2.36	1207	2.47	1232	2.58	1257	2.69		
2400	860	1.30	893	1.41	924	1.52	955	1.64	984	1.75	1012	1.87	1040	1.99	1066	2.11	1092	2.23	1117	2.35	1142	2.47	1117	2.35	1142	2.47	1193	2.47	1217	2.58	1242	2.69	1267	2.80		
2520	863	1.36	896	1.48	927	1.59	958	1.71	987	1.83	1015	1.95	1043	2.07	1070	2.20	1096	2.32	1121	2.45	1145	2.57	1121	2.45	1145	2.57	1199	2.57	1223	2.68	1248	2.79	1273	2.90		
2640	867	1.43	899	1.55	930	1.67	961	1.79	990	1.91	1018	2.03	1046	2.16	1073	2.29	1099	2.42	1124	2.55	1149	2.68	1124	2.55	1149	2.68	1207	2.68	1231	2.79	1256	2.90	1281	3.01		
2760	870	1.50	902	1.62	933	1.74	964	1.87	993	1.99	1021	2.12	1049	2.25	1076	2.38	1102	2.51	1128	2.64	1152	2.78	1128	2.64	1152	2.78	1213	2.78	1237	2.89	1262	3.00	1287	3.11		
2880	874	1.58	906	1.70	937	1.82	967	1.95	996	2.08	1024	2.21	1052	2.34	1079	2.47	1105	2.61	1131	2.75	1156	2.88	1131	2.75	1156	2.88	1219	2.88	1243	2.99	1268	3.10	1293	3.21		
External Static Pressure (Inches of Water Gauge)																																				
		2.30"		2.40"		2.50"		2.60"																												
CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP																										
3 HP Ultra High Static Motor																																				
1920	1141	2.14	1163	2.24	1185	2.34	1206	2.44	1141	2.14	1163	2.24	1185	2.34	1206	2.44																				
2040	1148	2.25	1170	2.35	1192	2.46	1213	2.57	1148	2.25	1170	2.35	1192	2.46	1213	2.57																				
2160	1154	2.36	1176	2.47	1198	2.58	1220	2.69	1154	2.36	1176	2.47	1198	2.58	1220	2.69																				
2280	1160	2.48	1182	2.59	1204	2.70	1226	2.82	1160	2.48	1182	2.59	1204	2.70	1226	2.82																				
2400	1165	2.59	1188	2.71	1210	2.83	1232	2.95	1165	2.59	1188	2.71	1210	2.83	1232	2.95																				
2520	1169	2.70	1193	2.83	1215	2.96	-	-	1169	2.70	1193	2.83	1215	2.96	-	-																				
2640	1173	2.81	1197	2.94	-	-	-	-	1173	2.81	1197	2.94	-	-	-	-																				
2760	1177	2.91	-	-	-	-	-	-	1177	2.91	-	-	-	-	-	-																				
2880	1180	3.02	-	-	-	-	-	-	1180	3.02	-	-	-	-	-	-																				

**Notes:**

1. Data includes pressure drop due to wet coil and 1" filter.
2. Fan motor heat (MBh) = 3.15 x BHP.
3. Check General Data for indoor fan motor HP availability.
4. For 380/60Hz models: Performance is limited to standard motor CFM/static range. No high static or oversized motors are available.
5. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.

Table 37. Evaporator fan performance - TWE072\*\*\*\* - 2-speed VFD, SZVAV air handler

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	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP										
2 HP Standard Drive																															
1920	-	-	-	-	-	466	25	0.31	516	28	0.37	567	30	0.44	614	33	0.52	659	35	0.61	701	38	0.69	741	40	0.78	778	42	0.88		
2040	-	-	-	-	-	476	26	0.34	524	28	0.41	572	31	0.48	618	33	0.56	663	36	0.65	704	38	0.74	744	40	0.83	782	42	0.92		
2160	-	-	-	-	-	486	26	0.39	533	29	0.45	578	31	0.52	623	33	0.60	666	36	0.69	708	38	0.78	747	40	0.88	784	42	0.97		
2280	-	-	-	-	-	496	27	0.43	543	29	0.50	586	31	0.57	629	34	0.65	671	36	0.74	711	38	0.83	750	40	0.93	788	42	1.03		
2400	-	-	-	-	460	25	0.41	507	27	0.48	553	30	0.55	595	32	0.62	635	34	0.70	676	36	0.79	716	38	0.88	754	40	0.98	791	42	1.08
2520	-	-	-	-	474	25	0.46	519	28	0.53	563	30	0.61	605	32	0.68	644	35	0.76	682	37	0.85	721	39	0.94	758	41	1.04	794	43	1.14
2640	-	-	-	-	488	26	0.52	531	28	0.59	574	31	0.67	615	33	0.75	653	35	0.83	690	37	0.91	726	39	1.00	763	41	1.10	799	43	1.21
2760	457	25	0.51	502	27	0.58	544	29	0.65	585	31	0.73	625	34	0.81	662	36	0.90	698	37	0.98	733	39	1.07	769	41	1.17	803	43	1.28	
2880	473	25	0.58	517	28	0.65	557	30	0.72	596	32	0.80	635	34	0.89	672	36	0.97	707	38	1.06	741	40	1.15	775	42	1.25	809	43	1.35	
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	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP										
2 HP Standard Drive																															
1920	814	44	0.97	848	46	1.06	880	47	1.16	911	49	1.26	940	50	1.35	968	52	1.45	995	53	1.54	1021	55	1.64	1046	56	1.74	1071	57	1.84	
2040	817	44	1.02	851	46	1.12	884	47	1.22	915	49	1.32	945	51	1.43	973	52	1.53	1001	54	1.63	1027	55	1.73	1052	56	1.83	1077	58	1.94	
2160	820	44	1.08	854	46	1.18	887	48	1.28	918	49	1.39	948	51	1.50	977	52	1.60	1005	54	1.71	1032	55	1.82	1058	57	1.93	1083	58	2.04	
2280	823	44	1.13	857	46	1.24	890	48	1.34	921	49	1.45	952	51	1.57	981	53	1.68	1009	54	1.79	1036	56	1.90	1063	57	2.02	1088	48	2.14	
2400	826	44	1.19	860	46	1.30	893	48	1.41	924	50	1.52	955	51	1.64	984	53	1.75	1012	54	1.87	1040	56	1.99	1066	57	2.11	1092	48	2.23	
2520	829	45	1.25	863	46	1.36	896	48	1.48	927	50	1.59	958	51	1.71	987	53	1.83	1015	55	1.95	1043	56	2.07	1070	47	2.20	1096	49	2.32	
2640	833	45	1.32	867	47	1.43	899	48	1.55	930	50	1.67	961	52	1.79	990	53	1.91	1018	55	2.03	1046	46	2.16	1073	48	2.29	1099	49	2.42	
2760	837	45	1.39	870	47	1.50	902	48	1.62	933	50	1.74	964	52	1.87	993	53	1.99	1021	55	2.12	1049	46	2.25	1076	48	2.38	1102	49	2.51	
2880	842	45	1.46	874	47	1.58	906	49	1.70	937	50	1.82	967	52	1.95	996	53	2.08	1024	45	2.21	1052	47	2.34	1079	48	2.47	1105	49	2.61	
External Static Pressure (Inches of Water Gauge)																															
2.10"		2.20"		2.30"		2.40"		2.50"		2.60"																					
CFM	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP																			
2 HP Standard Drive																															
1920	1095	59	1.94	1118	60	2.03	1141	51	2.14	1163	52	2.24	1185	52	2.34	1206	53	2.44													
2040	1101	59	2.04	1125	50	2.14	1148	51	2.25	1170	52	2.35	1192	53	2.46	1213	54	2.57													
2160	1107	49	2.14	1131	50	2.25	1154	51	2.36	1176	52	2.47	1198	53	2.58	1220	54	2.69													
2280	1113	49	2.25	1136	50	2.36	1160	51	2.48	1182	52	2.59	1204	53	2.70	1226	54	2.82													
2400	1117	49	2.35	1142	51	2.47	1165	52	2.59	1188	53	2.71	1210	54	2.83	1232	55	2.95													
2520	1121	50	2.45	1145	51	2.57	1169	52	2.70	1193	53	2.83	1215	54	2.96	1237	55	3.08													
2640	1124	50	2.55	1149	51	2.68	1173	52	2.81	1197	53	2.94	1220	54	3.07	-	-	-													
2760	1128	50	2.64	1152	51	2.78	1177	52	2.91	1200	53	3.05	-	-	-	-	-	-													
2880	1131	50	2.75	1156	51	2.88	1180	52	3.02	-	-	-	-	-	-	-	-	-													

Notes:  
 1. 2-Speed VFD or SZVAV applications are capable of running below 320 cfm/ton during low speed airflow operation, but "full" airflow must be set to 320 cfm/ton or higher.  
 2. Check General Data for indoor fan motor HP availability. For 380/60Hz models: Performance is limited to standard motor CFM/static range. No high static or oversized motors are available.

**Table 38. Evaporator fan performance – TWE090 – constant volume air handler**

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"		1.10"	
CFM	RPM	BHP	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 with Field Supplied Sheave and Belt</b>												<b>1.5 HP Standard Motor</b>											
2400	411	0.35	460	0.41	507	0.48	553	0.55	595	0.62	635	0.70	676	0.79	716	0.88	754	0.98	791	1.08	826	1.19	
2550	430	0.41	477	0.48	522	0.55	566	0.62	607	0.70	646	0.78	684	0.86	722	0.96	759	1.05	795	1.16	830	1.27	
2700	449	0.48	495	0.55	537	0.62	579	0.70	620	0.78	658	0.86	694	0.95	730	1.04	766	1.14	801	1.24	835	1.35	
2850	469	0.56	513	0.63	554	0.71	593	0.78	633	0.87	670	0.95	705	1.04	739	1.13	773	1.23	807	1.33	841	1.44	
3000	489	0.64	531	0.72	570	0.80	608	0.88	646	0.96	682	1.05	717	1.14	750	1.24	782	1.33	815	1.44	847	1.55	
3150	509	0.73	550	0.81	588	0.90	624	0.98	660	1.07	695	1.16	729	1.26	762	1.35	793	1.45	824	1.55	855	1.66	
3300	530	0.84	569	0.92	605	1.01	640	1.09	674	1.18	709	1.28	742	1.38	774	1.47	805	1.57	835	1.68	864	1.78	
3450	549	0.95	588	1.03	623	1.12	657	1.22	690	1.31	723	1.40	755	1.50	-	-	817	1.71	846	1.82	874	1.92	
3600	569	1.06	608	1.16	642	1.25	674	1.35	706	1.44	-	-	-	-	800	1.75	829	1.86	858	1.97	886	2.08	
External Static Pressure (Inches of Water Gauge)																							
		1.20"		1.30"		1.40"		1.50"		1.60"		1.70"		1.80"		1.90"		2.00"		2.10"		2.20"	
CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
<b>2 HP High Static Motor</b>												<b>3 HP Ultra High Static Motor</b>											
2400	860	1.30	893	1.41	924	1.52	955	1.64	984	1.75	1012	1.87	1040	1.99	1066	2.11	1092	2.23	1117	2.35	1142	2.47	
2550	864	1.38	897	1.49	928	1.61	958	1.73	988	1.85	1016	1.97	1044	2.09	1071	2.22	1096	2.34	1122	2.47	1146	2.60	
2700	868	1.47	901	1.58	932	1.70	962	1.82	991	1.95	1020	2.08	1048	2.20	1074	2.33	1101	2.46	1126	2.59	1151	2.73	
2850	873	1.56	905	1.68	936	1.80	966	1.93	995	2.05	1024	2.18	1051	2.32	1078	2.45	1104	2.58	1130	2.72	1155	2.86	
3000	879	1.66	910	1.78	941	1.91	970	2.03	999	2.17	1028	2.30	1055	2.43	1082	2.57	1108	2.71	1134	2.85	1159	2.99	
3150	886	1.78	916	1.90	946	2.02	975	2.15	1004	2.28	1032	2.42	1059	2.56	1086	2.70	1112	2.84	1137	2.98	-	-	
3300	893	1.90	923	2.02	952	2.15	981	2.28	1009	2.41	1036	2.55	1063	2.69	1090	2.83	1116	2.97	-	-	-	-	
3450	902	2.03	930	2.15	959	2.28	987	2.41	1014	2.55	1041	2.68	1068	2.83	1094	2.97	-	-	-	-	-	-	
3600	913	2.19	940	2.31	967	2.43	994	2.56	1021	2.70	1047	2.83	1074	2.98	-	-	-	-	-	-	-	-	
External Static Pressure (Inches of Water Gauge)																							
		2.30"		2.40"		2.50"		2.60"															
CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP															
<b>3 HP Ultra High Static Motor</b>																							
2400	1165	2.59	1188	2.71	1210	2.83	1232	2.95															
2550	1170	2.73	1194	2.86	1217	2.99	-	-															
2700	1175	2.86	1198	3.00	-	-	-	-															
2850	1179	3.00	-	-	-	-	-	-															
3000	-	-	-	-	-	-	-	-															
3150	-	-	-	-	-	-	-	-															
3300	-	-	-	-	-	-	-	-															
3450	-	-	-	-	-	-	-	-															
3600	-	-	-	-	-	-	-	-															

**Notes:**

1. Data includes pressure drop due to wet coil and 1" filter.
2. Fan motor heat (MBh) = 3.15 x BHP.
3. Check General Data for indoor fan motor HP availability.
4. For 380/60Hz models: Performance is limited to standard motor CFM/static range. No high static or oversized motors are available.
5. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.



Performance Data

Table 39. Evaporator fan performance - TWE090\*\*\*\* - 2-speed VFD, SZVAV air handler

		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	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP						
2 HP Standard Drive																														
2400	-	-	-	460	25	0.41	507	27	0.48	553	30	0.55	595	32	0.62	635	34	0.70	676	36	0.79	716	38	0.88	754	40	0.98	791	42	1.08
2550	-	-	-	477	26	0.48	522	28	0.55	566	30	0.62	607	33	0.70	646	35	0.78	684	37	0.86	722	39	0.96	759	41	1.05	795	43	1.16
2700	-	-	-	495	27	0.55	537	29	0.62	579	31	0.70	620	33	0.78	658	35	0.86	694	37	0.95	730	39	1.04	766	41	1.14	801	43	1.24
2850	469	25	0.56	513	28	0.63	554	30	0.71	593	32	0.78	633	34	0.87	670	36	0.95	705	38	1.04	739	40	1.13	773	41	1.23	807	43	1.33
3000	489	26	0.64	531	28	0.72	570	31	0.80	608	33	0.88	646	35	0.96	682	37	1.05	717	38	1.14	750	40	1.24	782	42	1.33	815	44	1.44
3150	509	27	0.73	550	30	0.81	588	32	0.90	624	33	0.98	660	35	1.07	695	37	1.16	729	39	1.26	762	41	1.35	793	43	1.45	824	44	1.55
3300	530	28	0.84	569	31	0.92	605	32	1.01	640	34	1.09	674	36	1.18	709	38	1.28	742	40	1.38	774	42	1.47	805	43	1.57	835	45	1.68
3450	549	29	0.95	588	32	1.03	623	33	1.12	657	35	1.22	690	37	1.31	723	39	1.40	755	41	1.50	787	42	1.61	817	44	1.71	846	45	1.82
3600	569	31	1.06	608	33	1.16	642	34	1.25	674	36	1.35	706	38	1.44	737	40	1.54	769	41	1.64	800	43	1.75	829	44	1.86	858	46	1.97
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	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP						
2 HP Standard Drive																														
2400	826	44	1.19	860	46	1.30	893	48	1.41	924	50	1.52	955	51	1.64	984	53	1.75	1012	54	1.87	1040	56	1.99	1066	47	2.11	1092	48	2.23
2550	830	45	1.27	864	46	1.38	897	48	1.49	928	50	1.61	958	51	1.73	988	53	1.85	1016	55	1.97	1044	46	2.09	1071	47	2.22	1096	49	2.34
2700	835	45	1.35	868	47	1.47	901	48	1.58	932	50	1.70	962	52	1.82	991	53	1.95	1020	45	2.08	1048	46	2.20	1074	48	2.33	1101	49	2.46
2850	841	45	1.44	873	47	1.56	905	49	1.68	936	50	1.80	966	52	1.93	995	44	2.05	1024	45	2.18	1051	47	2.32	1078	48	2.45	1104	49	2.58
3000	847	45	1.55	879	47	1.66	910	49	1.78	941	50	1.91	970	52	2.03	999	44	2.17	1028	46	2.3	1055	47	2.43	1082	48	2.57	1108	49	2.71
3150	855	46	1.66	886	48	1.78	916	49	1.90	946	51	2.02	975	43	2.15	1004	44	2.28	1032	46	2.42	1059	47	2.56	1086	48	2.7	1112	49	2.84
3300	864	46	1.78	893	48	1.90	923	50	2.02	952	42	2.15	981	43	2.28	1009	45	2.41	1036	46	2.55	1063	47	2.69	1090	48	2.83	1116	49	2.97
3450	874	47	1.92	902	48	2.03	930	41	2.15	959	42	2.28	987	44	2.41	1014	45	2.55	1041	46	2.68	1068	47	2.83	1094	49	2.97	-	-	-
3600	886	39	2.08	913	40	2.19	940	42	2.31	967	43	2.43	994	44	2.56	1021	45	2.70	1047	46	2.83	1074	48	2.98	-	-	-	-	-	
External Static Pressure (Inches of Water Gauge)																														
		2.10"		2.20"		2.30"		2.40"		2.50"		2.60"																		
CFM	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP															
3 HP High Static Drive																														
2400	1117	50	2.35	1142	51	2.47	1165	52	2.59	1188	53	2.71	1210	54	2.83	1232	55	2.95	-	-	-	-	-	-	-	-	-	-	-	
2550	1122	50	2.47	1146	51	2.60	1170	52	2.73	1194	53	2.86	1217	54	2.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2700	1126	50	2.59	1151	51	2.73	1175	52	2.86	1198	53	3.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2850	1130	50	2.72	1155	51	2.86	1179	52	3.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3000	1134	50	2.85	1159	51	2.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3150	1137	50	2.98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3450	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:  
 1. 2-Speed VFD or SZVAV applications are capable of running below 320 cfm/ton during low speed airflow operation, but "full" airflow must be set to 320 cfm/ton or higher.  
 2. Check General Data for indoor fan motor HP availability. For 380/60Hz models: Performance is limited to standard motor CFM/static range. No high static or oversized motors are available.

**Table 40. Evaporator fan performance – TWE120 – constant volume air handler**

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"		1.10"	
CFM	RPM	BHP	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>																							
3200	-	-	-	-	586	0.72	625	0.81	660	0.89	692	0.97	724	1.05	754	1.13	783	1.21	813	1.31	842	1.40	
3400	-	-	-	-	609	0.84	646	0.92	681	1.01	712	1.10	743	1.18	772	1.27	800	1.35	828	1.44	856	1.54	
3600	-	-	599	0.89	633	0.97	667	1.05	701	1.14	733	1.23	762	1.33	791	1.42	818	1.51	845	1.60	871	1.69	
3800	588	0.93	624	1.02	658	1.12	688	1.19	722	1.28	753	1.38	782	1.48	810	1.58	837	1.68	863	1.77	888	1.86	
4000	614	1.07	650	1.18	683	1.27	712	1.36	742	1.44	774	1.55	803	1.65	830	1.75	856	1.86	881	1.96	906	2.06	
4200	641	1.23	675	1.33	707	1.44	737	1.54	764	1.62	795	1.72	824	1.83	850	1.94	876	2.05	901	2.16	925	2.26	
4400	668	1.41	701	1.52	732	1.62	761	1.73	787	1.81	815	1.91	845	2.03	871	2.14	897	2.26	921	2.37	944	2.48	
4600	696	1.60	727	1.71	757	1.82	786	1.94	812	2.04	837	2.13	865	2.24	892	2.36	917	2.48	941	2.60	964	2.72	
4800	725	1.81	753	1.92	782	2.04	811	2.16	836	2.27	860	2.36	886	2.47	913	2.59	938	2.72	962	2.84	984	2.96	
<b>External Static Pressure (Inches of Water Gauge)</b>																							
		1.20"		1.30"		1.40"		1.50"		1.60"		1.70"		1.80"		1.90"		2.00"		2.10"		2.20"	
CFM	RPM	BHP	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</b>											<b>3 HP High Static Motor w/Field Supplied Sheave &amp; Belt</b>												
3200	870	1.50	899	1.60	927	1.71	955	1.82	982	1.92	1008	2.03	1033	2.13	1058	2.24	1082	2.35	1105	2.45	1128	2.56	
3400	883	1.64	910	1.74	936	1.85	964	1.96	991	2.07	1017	2.19	1042	2.30	1066	2.41	1090	2.52	1114	2.64	1136	2.75	
3600	897	1.79	923	1.89	949	2.00	974	2.11	999	2.23	1025	2.35	1050	2.47	1075	2.59	1099	2.71	1122	2.83	-	-	
3800	913	1.96	938	2.07	963	2.17	987	2.29	1011	2.40	1035	2.52	1059	2.64	1084	2.77	1107	2.89	-	-	-	-	
4000	930	2.16	954	2.26	978	2.36	1001	2.48	1025	2.59	1048	2.71	1071	2.83	1093	2.96	-	-	-	-	-	-	
4200	948	2.37	971	2.47	994	2.58	1017	2.69	1039	2.80	1062	2.92	-	-	-	-	-	-	-	-	-	-	
4400	967	2.59	990	2.70	1012	2.81	1034	2.92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4600	987	2.83	1009	2.95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

**Notes:**

1. Data includes pressure drop due to wet coil and 1" filter.
2. Fan motor heat (MBh) = 3.15 x BHP.
3. Check General Data for indoor fan motor HP availability.
4. For 380/60Hz models: Performance is limited to standard motor CFM/static range. No high static or oversized motors are available.
5. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.



Performance Data

Table 41. Evaporator fan performance - TWE120\*\*\*\* - 2-speed VFD, SZVAV air handler

		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	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP						
2 HP Standard Drive																														
3200	507	33	0.58	549	36	0.66	586	38	0.72	625	41	0.81	660	43	0.89	692	45	0.97	724	47	1.05	754	49	1.13	783	51	1.21	813	53	1.31
3400	534	35	0.69	574	37	0.77	609	40	0.84	646	42	0.92	681	44	1.01	712	47	1.10	743	49	1.18	772	50	1.27	800	52	1.35	828	44	1.44
3600	561	37	0.80	599	39	0.89	633	41	0.97	667	44	1.05	701	46	1.14	733	48	1.23	762	50	1.33	791	52	1.42	818	53	1.51	845	45	1.60
3800	588	38	0.93	624	41	1.02	658	43	1.12	688	45	1.19	722	47	1.28	753	49	1.38	782	51	1.48	810	53	1.58	837	44	1.68	863	46	1.77
4000	614	40	1.07	650	42	1.18	683	45	1.27	712	47	1.36	742	49	1.44	774	51	1.55	803	52	1.65	830	54	1.75	856	45	1.86	881	47	1.96
4200	641	42	1.23	675	44	1.33	707	46	1.44	737	48	1.54	764	50	1.62	795	52	1.72	824	54	1.83	850	45	1.94	876	46	2.05	901	48	2.16
4400	668	44	1.41	701	46	1.52	732	48	1.62	761	50	1.73	787	51	1.81	815	53	1.91	845	45	2.03	871	46	2.14	897	47	2.26	921	49	2.37
4600	696	45	1.60	727	47	1.71	757	49	1.82	786	51	1.94	812	43	2.04	837	44	2.13	865	46	2.24	892	47	2.36	917	49	2.48	941	50	2.6
4800	725	47	1.81	753	49	1.92	782	41	2.04	811	43	2.16	836	44	2.27	860	46	2.36	886	47	2.47	913	48	2.59	938	50	2.72	962	51	2.84
3 HP High Static Drive																														
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	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP						
3200	842	45	1.40	870	46	1.50	899	48	1.60	927	49	1.71	955	51	1.82	982	52	1.92	1008	53	2.03	1033	55	2.13	1058	56	2.24	1082	57	2.35
3400	856	45	1.54	883	47	1.64	910	48	1.74	936	50	1.85	964	51	1.96	991	52	2.07	1017	54	2.19	1042	55	2.30	1066	56	2.41	1090	58	2.52
3600	871	46	1.69	897	47	1.79	923	49	1.89	949	50	2.00	974	52	2.11	999	53	2.23	1025	54	2.35	1050	56	2.47	1075	57	2.59	1099	58	2.71
3800	888	47	1.86	913	48	1.96	938	50	2.07	963	51	2.17	987	52	2.29	1011	54	2.40	1035	55	2.52	1059	56	2.64	1084	57	2.77	1107	59	2.89
4000	906	48	2.06	930	49	2.16	954	51	2.26	978	52	2.36	1001	53	2.48	1025	54	2.59	1048	55	2.71	1071	57	2.83	1093	58	2.96	-	-	-
4200	925	49	2.26	948	50	2.37	971	51	2.47	994	53	2.58	1017	54	2.69	1039	55	2.80	1062	56	2.92	-	-	-	-	-	-	-	-	
4400	944	50	2.48	967	51	2.59	990	52	2.70	1012	54	2.81	1034	55	2.92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4600	964	51	2.72	987	52	2.83	1009	53	2.95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4800	984	52	2.96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
External Static Pressure (Inches of Water Gauge)																														
		2.10"		2.20"																										
CFM	RPM	Hz	BHP	RPM	Hz	BHP																								
3 HP High Static Drive																														
3200	1105	58	2.45	1128	60	2.56																								
3400	1114	59	2.64	1136	60	2.75																								
3600	1122	59	2.83	1145	61	2.95																								
3800	-	-	-	-	-	-																								
4000	-	-	-	-	-	-																								
4200	-	-	-	-	-	-																								
4400	-	-	-	-	-	-																								
4600	-	-	-	-	-	-																								
4800	-	-	-	-	-	-																								

Notes:  
 1. 2-Speed VFD or SZVAV applications are capable of running below 320 cfm/ton during low speed airflow operation, but "full" airflow must be set to 320 cfm/ton or higher.  
 2. Check General Data for indoor fan motor HP availability. For 380/60Hz models: Performance is limited to standard motor CFM/static range. No high static or oversized motors are available.

**Table 42. Evaporator fan performance – TWE180 – constant volume air handler**

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"		1.10"	
CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
3 HP Standard Motor w/ Field Supplied Sheave & Belt											3 HP Standard Motor											5 HP High Static Motor	
4800	492	0.80	539	0.94	583	1.08	624	1.21	663	1.34	701	1.49	738	1.66	774	1.82	807	1.98	839	2.14	869	2.30	
5100	517	0.95	562	1.08	604	1.24	644	1.38	681	1.52	718	1.67	753	1.83	788	2.00	821	2.18	853	2.35	883	2.52	
5400	542	1.11	585	1.25	625	1.41	663	1.57	700	1.71	735	1.86	769	2.02	802	2.20	835	2.38	866	2.57	897	2.75	
5700	567	1.29	609	1.43	647	1.60	684	1.78	719	1.93	753	2.08	786	2.24	818	2.41	849	2.60	881	2.80	910	2.99	
6000	593	1.48	632	1.64	669	1.80	705	1.99	739	2.16	773	2.32	804	2.48	835	2.66	865	2.84	895	3.04	924	3.25	
6300	619	1.70	656	1.86	692	2.03	726	2.22	760	2.42	792	2.59	823	2.75	853	2.93	882	3.12	910	3.31	939	3.52	
6600	644	1.94	681	2.11	715	2.28	748	2.48	781	2.69	811	2.87	841	3.04	871	3.22	899	3.40	927	3.60	954	3.81	
6900	670	2.20	705	2.37	739	2.55	771	2.75	802	2.97	832	3.18	861	3.36	890	3.54	917	3.72	944	3.92	971	4.13	
7200	696	2.49	730	2.66	763	2.85	794	3.05	824	3.27	853	3.49	881	3.70	909	3.89	936	4.08	963	4.28	988	4.48	
External Static Pressure (Inches of Water Gauge)																							
		1.20"		1.30"		1.40"		1.50"		1.60"		1.70"		1.80"		1.90"		2.00"		2.10"		2.20"	
CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	
5 HP High Static Motor											5 HP High Static Motor w/ Field Supplied Sheave & Belt												
4800	897	2.46	926	2.62	953	2.77	979	2.93	1004	3.08	1029	3.24	1051	3.38	1075	3.54	1097	3.69	1120	3.84	1141	3.99	
5100	911	2.69	940	2.86	965	3.02	992	3.19	1017	3.36	1042	3.52	1065	3.68	1088	3.84	1111	4.02	1132	4.17	1154	4.33	
5400	925	2.93	953	3.11	980	3.29	1005	3.47	1031	3.65	1055	3.82	1078	3.99	1102	4.17	1123	4.34	1146	4.52	1167	4.69	
5700	940	3.19	966	3.38	993	3.57	1019	3.75	1044	3.94	1068	4.13	1092	4.32	1114	4.50	1137	4.69	1159	4.87	1180	5.06	
6000	953	3.45	980	3.65	1008	3.86	1033	4.06	1057	4.26	1081	4.45	1105	4.66	1129	4.86	1150	5.05	—	—	—	—	
6300	967	3.73	995	3.95	1022	4.17	1046	4.37	1071	4.59	1095	4.79	1119	5.01	—	—	—	—	—	—	—	—	
6600	981	4.02	1009	4.25	1035	4.48	1061	4.71	1085	4.93	—	—	—	—	—	—	—	—	—	—	—		
6900	998	4.35	1022	4.57	1049	4.81	1074	5.04	—	—	—	—	—	—	—	—	—	—	—	—	—		
7200	1014	4.70	1039	4.93	1063	5.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
External Static Pressure (Inches of Water Gauge)																							
		2.30"		2.40"																			
CFM	RPM	BHP	RPM	BHP																			
5 HP High Static Motor w/ Field Supplied Sheave & Belt																							
4800	1162	4.14	1183	4.30																			
5100	1175	4.49	1196	4.66																			
5400	1188	4.86	1209	5.04																			
5700	—	—	—	—																			
6000	—	—	—	—																			
6300	—	—	—	—																			
6600	—	—	—	—																			
6900	—	—	—	—																			
7200	—	—	—	—																			

**Notes:**

1. Data includes pressure drop due to wet coil and 1" filter.
2. Fan motor heat (MBh) = 3.15 x BHP.
3. Check General Data for indoor fan motor HP availability.
4. For 380/60Hz models: Performance is limited to standard motor CFM/static range. No high static or oversized motors are available.
5. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.



Performance Data

Table 43. Evaporator fan performance - TWE180\*\*\*\* - 2-speed VFD, SZVAV air handler

		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"		
CFM	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	
3 HP Standard Drive																												
4800	—	—	—	539	38	0.94	583	41	1.08	624	44	1.21	663	47	1.34	701	49	1.49	738	52	1.66	774	54	1.82	807	57	1.98	
5100	—	—	—	562	39	1.08	604	42	1.24	644	45	1.38	681	48	1.52	718	50	1.67	753	53	1.83	788	55	2.00	821	58	2.18	
5400	542	38	1.11	585	41	1.25	625	44	1.41	663	47	1.57	700	49	1.71	735	52	1.86	769	54	2.02	802	56	2.20	835	59	2.38	
5700	567	40	1.29	609	43	1.43	647	45	1.60	684	48	1.78	719	51	1.93	753	53	2.08	786	55	2.24	818	57	2.41	849	60	2.60	
6000	593	42	1.48	632	44	1.64	669	47	1.80	705	50	1.99	739	52	2.16	773	54	2.32	804	56	2.48	835	59	2.66	865	62	2.84	
6300	619	43	1.70	656	46	1.86	692	49	2.03	726	51	2.22	760	53	2.42	792	56	2.59	823	58	2.75	853	60	2.93	882	63	3.12	
6600	644	45	1.94	681	48	2.11	715	50	2.28	748	53	2.48	781	55	2.69	811	57	2.87	841	59	3.04	871	61	3.22	899	64	3.40	
6900	670	47	2.20	705	50	2.37	739	52	2.55	771	54	2.75	802	56	2.97	832	58	3.18	861	60	3.36	890	62	3.54	917	65	3.72	
7200	696	49	2.49	730	51	2.66	763	54	2.85	794	56	3.05	824	58	3.27	853	60	3.49	881	62	3.70	909	64	3.89	936	67	4.08	
5 HP High Static Drive																												
4800	839	59	2.14	869	44	2.30	897	45	2.46	926	47	2.62	953	48	2.77	979	49	2.93	1004	51	3.08	1029	52	3.24	1051	53	3.38	
5100	853	60	2.35	883	44	2.52	911	46	2.69	940	47	2.86	965	49	3.02	992	50	3.19	1017	51	3.36	1042	52	3.52	1065	54	3.68	
5400	866	44	2.57	897	45	2.75	925	47	2.93	953	48	3.11	980	49	3.29	1005	51	3.47	1031	52	3.65	1055	53	3.82	1078	54	3.99	
5700	881	44	2.80	910	46	2.99	940	47	3.19	966	49	3.38	993	50	3.57	1019	51	3.75	1044	53	3.94	1068	54	4.13	1092	55	4.32	
6000	895	45	3.04	924	47	3.25	953	48	3.45	980	49	3.65	1008	51	3.86	1033	52	4.06	1057	53	4.26	1081	54	4.45	1105	56	4.66	
6300	910	46	3.31	939	47	3.52	967	49	3.73	995	50	3.95	1022	51	4.17	1046	53	4.37	1071	54	4.59	1095	55	4.79	1119	56	5.01	
6600	927	47	3.60	954	48	3.81	981	49	4.02	1009	51	4.25	1035	52	4.48	1061	53	4.71	1085	55	4.93	—	—	—	—	—		
6900	944	48	3.92	971	49	4.13	998	50	4.35	1022	51	4.57	1049	53	4.81	1074	54	5.04	—	—	—	—	—	—	—	—		
7200	963	49	4.28	988	50	4.48	1014	51	4.70	1039	52	4.93	1063	54	5.15	—	—	—	—	—	—	—	—	—	—	—		
5 HP High Static Drive																												
4800	1075	54	3.54	1097	55	3.69	1120	56	3.84	1141	57	3.99	1162	59	4.14	1183	60	4.30	—	—	—	—	—	—	—	—		
5100	1088	55	3.84	1111	56	4.02	1132	57	4.17	1154	58	4.33	1175	59	4.49	1196	60	4.66	—	—	—	—	—	—	—	—		
5400	1102	56	4.17	1123	57	4.34	1146	58	4.52	1167	59	4.69	1188	60	4.86	—	—	—	—	—	—	—	—	—	—	—		
5700	1114	56	4.50	1137	57	4.69	1159	58	4.87	1180	59	5.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
6000	1129	57	4.86	1150	58	5.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
6300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
6600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
6900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
7200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		

Notes:  
 1. 2-Speed VFD or SZVAV applications are capable of running below 320 cfm/ton during low speed airflow operation, but "full" airflow must be set to 320 cfm/ton or higher.  
 2. Check General Data for indoor fan motor HP availability. For 380/60Hz models: Performance is limited to standard motor CFM/static range. No high static or oversized motors are available.



**Table 44. Evaporator fan performance – TWE240 – constant volume air handler**

External Static Pressure (Inches of Water Gauge)																				
CFM	0.10"		0.20"		0.30"		0.40"		0.50"		0.60"		0.70"		0.80"		0.90"		1.00"	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
										<b>3 HP Low Static Motor</b>					<b>5 HP Standard Motor</b>					
6400	—	—	—	—	652	1.55	693	1.70	732	1.86	769	2.02	802	2.17	833	2.33	867	2.53	901	2.75
6800	—	—	—	—	677	1.79	717	1.96	754	2.12	791	2.29	824	2.46	855	2.62	885	2.79	916	3.00
7200	—	—	661	1.87	703	2.05	742	2.24	778	2.42	812	2.59	846	2.77	878	2.95	906	3.11	934	3.29
7600	647	1.98	688	2.15	729	2.34	766	2.55	802	2.74	835	2.92	868	3.10	900	3.29	929	3.48	956	3.66
8000	677	2.29	716	2.47	755	2.67	791	2.88	826	3.09	858	3.28	889	3.47	921	3.67	951	3.87	979	4.06
8400	707	2.63	744	2.82	781	3.02	817	3.24	851	3.46	883	3.68	913	3.87	942	4.07	972	4.28	1000	4.49
8800	737	3.01	773	3.21	808	3.41	843	3.63	876	3.87	907	4.10	937	4.31	965	4.52	994	4.73	1022	4.95
9200	767	3.41	802	3.63	836	3.84	869	4.06	901	4.30	932	4.55	961	4.79	989	5.00	1016	5.21	1044	5.44
9600	797	3.86	831	4.08	863	4.30	896	4.53	927	4.78	957	5.03	986	5.29	1013	5.52	1040	5.75	1065	5.97
External Static Pressure (Inches of Water Gauge)																				
CFM	1.10"		1.20"		1.30"		1.40"		1.50"		1.60"		1.70"		1.80"		1.90"		2.00"	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
			<b>5 HP Standard Motor</b>			<b>5 HP Standard Motor w/Field Supplied Sheaves</b>						<b>7.5 HP High Static Motor</b>			<b>7.5 HP High Static Motor w/Field Supplied Fan Sheave &amp; Belt</b>					
6400	934	2.95	965	3.16	996	3.37	1028	3.58	1059	3.81	1091	4.03	1120	4.25	1148	4.46	1177	4.69	1204	4.90
6800	948	3.22	979	3.45	1008	3.66	1039	3.89	1069	4.12	1099	4.35	1128	4.58	1156	4.81	1185	5.05	1212	5.28
7200	964	3.51	994	3.75	1024	3.99	1052	4.22	1079	4.45	1108	4.69	1136	4.93	1166	5.19	1193	5.43	1219	5.67
7600	982	3.85	1011	4.07	1039	4.31	1066	4.56	1095	4.82	1121	5.06	1148	5.31	1174	5.56	1202	5.82	1228	6.07
8000	1004	4.25	1029	4.45	1055	4.67	1082	4.92	1109	5.19	1136	5.46	1161	5.71	1186	5.97	1213	6.24	1236	6.48
8400	1027	4.70	1051	4.90	1075	5.10	1100	5.33	1125	5.58	1151	5.85	1177	6.14	1202	6.42	1225	6.68	1250	6.96
8800	1049	5.17	1074	5.39	1097	5.59	1120	5.81	1144	6.03	1168	6.30	1192	6.57	1216	6.85	1241	7.16	1264	7.44
9200	1071	5.68	1096	5.90	1120	6.13	1143	6.34	1164	6.56	1186	6.79	1209	7.05	1233	7.35	—	—	—	—
9600	1092	6.21	1117	6.45	1142	6.69	1166	6.93	1187	7.15	1208	7.38	—	—	—	—	—	—	—	—
External Static Pressure (Inches of Water Gauge)																				
CFM	2.10"		2.20"		2.30"		2.40"													
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP												
<b>7.5 HP High Static Motor w/Field Supplied Fan Sheave &amp; Belt</b>																				
6400	1230	5.11	1257	5.33	1282	5.54	1308	5.77												
6800	1239	5.52	1265	5.75	1290	5.98	1315	6.20												
7200	1246	5.92	1272	6.17	1298	6.41	1323	6.66												
7600	1255	6.35	1282	6.61	1306	6.86	—	—												
8000	1262	6.76	1289	7.04	1313	7.31	—	—												
8400	1273	7.22	—	—	—	—	—	—												
8800	—	—	—	—	—	—	—	—												
9200	—	—	—	—	—	—	—	—												
9600	—	—	—	—	—	—	—	—												

**Notes:**

1. Data includes pressure drop due to wet coil and 1" filter.
2. Fan motor heat (MBh) = 3.15 x BHP.
3. Check General Data for indoor fan motor HP availability.
4. For 380/60Hz models: Performance is limited to standard motor CFM/static range. No high static or oversized motors are available.
5. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.

Table 45. Evaporator fan performance - TWE240\*\*\*\* - 2-speed VFD, SZVAV air handler

		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	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP			
6400	—	—	—	—	—	—	—	—	—	732	39	1.86	769	41	2.02	802	42	2.17	833	44	2.33	867	46	2.53	901	47	2.75
6800	—	—	—	—	—	—	—	—	—	754	40	2.12	791	42	2.29	824	43	2.46	855	45	2.62	885	47	2.79	916	48	3.00
7200	—	—	—	—	—	—	—	—	—	778	41	2.42	812	43	2.59	846	45	2.77	878	46	2.95	906	48	3.11	934	49	3.29
7600	—	—	—	—	—	—	—	—	—	802	42	2.74	835	44	2.92	868	46	3.10	900	47	3.29	929	49	3.48	956	50	3.66
8000	—	—	—	—	—	—	—	—	—	826	44	3.09	858	45	3.28	889	47	3.47	921	49	3.67	951	50	3.87	979	52	4.06
8400	—	—	—	—	—	—	—	—	—	851	45	3.46	883	47	3.68	913	48	3.87	942	50	4.07	972	51	4.28	1000	53	4.49
8800	737	39	3.01	773	41	3.21	808	43	3.41	843	44	3.63	876	46	3.87	907	48	4.10	937	49	4.31	965	51	4.52	994	52	4.73
9200	767	40	3.41	802	42	3.63	836	44	3.84	869	46	4.06	901	47	4.30	932	49	4.55	961	51	4.79	989	52	5.00	1016	46	5.21
9600	797	42	3.86	831	44	4.08	863	45	4.30	896	47	4.53	927	49	4.78	957	50	5.03	986	45	5.29	1013	46	5.52	1040	47	5.75
		5 HP Standard Drive																									
		7.5 HP High Static Drive																									
		External Static Pressure (Inches of Water Gauge)																									
		1.10" ESP		1.20" ESP		1.30" ESP		1.40" ESP		1.50" ESP		1.60" ESP		1.70" ESP		1.80" ESP		1.90" ESP		2.00" ESP							
CFM	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP			
6400	934	49	2.95	965	51	3.16	996	52	3.37	1028	54	3.58	1059	56	3.81	1091	57	4.03	1120	51	4.25	1148	52	4.46	1177	53	4.69
6800	948	50	3.22	979	52	3.45	1008	53	3.66	1039	55	3.89	1069	56	4.12	1099	50	4.35	1128	51	4.58	1156	53	4.81	1185	54	5.05
7200	964	51	3.51	994	52	3.75	1024	54	3.99	1052	55	4.22	1079	57	4.45	1108	50	4.69	1136	52	4.93	1166	53	5.19	1193	54	5.43
7600	982	52	3.85	1011	53	4.07	1039	55	4.31	1066	56	4.56	1095	50	4.82	1121	51	5.06	1148	52	5.31	1174	53	5.56	1202	55	5.82
8000	1004	53	4.25	1029	54	4.45	1055	56	4.67	1082	57	4.92	1109	50	5.19	1136	52	5.46	1161	53	5.71	1186	54	5.97	1213	55	6.24
8400	1027	54	4.70	1051	55	4.90	1075	57	5.10	1100	50	5.33	1125	51	5.58	1151	52	5.85	1177	53	6.14	1202	55	6.42	1225	56	6.68
8800	1049	48	5.17	1074	49	5.39	1097	50	5.59	1120	51	5.81	1144	52	6.03	1168	53	6.30	1192	54	6.57	1216	55	6.85	1241	56	7.16
9200	1071	49	5.68	1096	50	5.90	1120	51	6.13	1143	52	6.34	1164	53	6.56	1186	54	6.79	1209	55	7.05	1233	56	7.35	—	—	—
9600	1092	50	6.21	1117	51	6.45	1142	52	6.69	1166	53	6.93	1187	54	7.15	1208	55	7.38	—	—	—	—	—	—	—	—	—
		5 HP Standard Drive																									
		7.5 HP High Static Drive																									
		External Static Pressure (Inches of Water Gauge)																									
		2.10" ESP		2.20" ESP		2.30" ESP		2.40" ESP																			
CFM	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP	RPM	Hz	BHP															
6400	1230	56	5.11	1257	57	5.33	1282	58	5.54	1308	59	5.77															
6800	1239	56	5.52	1265	57	5.75	1290	59	5.98	1315	60	6.20															
7200	1246	57	5.92	1272	58	6.17	1298	59	6.41	1323	60	6.66															
7600	1255	57	6.35	1282	58	6.61	1306	59	6.86	—	—	—															
8000	1262	57	6.76	1289	59	7.04	1313	60	7.31	—	—	—															
8400	1273	58	7.22	—	—	—	—	—	—	—	—	—															
8800	—	—	—	—	—	—	—	—	—	—	—	—															
9200	—	—	—	—	—	—	—	—	—	—	—	—															
9600	—	—	—	—	—	—	—	—	—	—	—	—															

Notes:  
 1. 2-Speed VFD or SZVAV applications are capable of running below 320 cfm/ton during low speed airflow operation, but "full" airflow must be set to 320 cfm/ton or higher.  
 2. Check General Data for indoor fan motor HP availability. For 380/60Hz models: Performance is limited to standard motor CFM/static range. No high static or oversized motors are available.

**Table 46. 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 47. Standard fan motors - constant volume air handlers**

Model	Motor	Motor Sheave Turns Open	Nominal RPM	Required Field Supplied Components		
				Motor Sheave	Blower Sheave	Belt
TWE060	Standard Motor 0.75 HP	0	1071	N/A	N/A	N/A
		1	1000			
		2	928			
		3	857			
		4	785			
5	714					
TWE072	Standard Motor 1.5 HP	0	847	N/A	N/A	N/A
		1	791			
		2	734			
		3	678			
		4	621			
5	565					
TWE072	Standard Motor with Field Supplied Components - 1.5 HP (Low Static)	1	589	Variable Pitch (1.9 - 2.9 Inch Pitch Diameter), 0.625 Inch Bore, Single Groove, Browning 1VP34	Fixed pitch (8.5 Inch Pitch Diameter), 1Inch Bore, Single Groove, Browning BK95	Browning A52
		2	548			
		3	507			
		4	466			
		5	426			
		6	385			
TWE090	Standard Motor 1.5 HP	0	847	N/A	N/A	N/A
		1	791			
		2	734			
		3	678			
		4	621			
5	565					
TWE090	Standard Motor with Field Supplied Components - 1.5 HP (Low static)	1	589	Variable Pitch (1.9 - 2.9 Inch Pitch Diameter), 0.625 Inch Bore, Single Groove, Browning 1VP34	Fixed pitch (8.5 Inch Pitch Diameter), 1 Inch Bore, Single Groove, Browning BK95	Browning A52
		2	548			
		3	507			
		4	466			
		5	426			
		6	385			
TWE120	Standard Motor 2 HP	0	818	N/A	N/A	N/A
		1	773			
		2	727			
		3	682			
		4	636			
5	591					
TWE180	Standard Motor 3 HP	0	845	N/A	N/A	N/A
		1	812			
		2	728			
		3	745			
		4	711			
		5	678			
6	644					



## Performance Data

**Table 47. Standard fan motors - constant volume air handlers (continued)**

Model	Motor	Motor Sheave Turns Open	Nominal RPM	Required Field Supplied Components		
				Motor Sheave	Blower Sheave	Belt
TWE240	Standard Motor 5 HP	0	966	N/A	N/A	N/A
		1	932			
		2	899			
		3	865			
		4	831			
		5	798			
TWE240	Standard Motor with Field Supplied Components 5 HP (high static)	1	1119	Variable Pitch (3.4 - 4.4 Inch Pitch Diameter), 1.125 Inch Bore, Single Groove, Browning 1VP50	Fixed Pitch (7.4 Inch Pitch Diameter), 1.4375 Inch Bore, Single Groove, Browning BK80	Browning BX56
		2	1072			
		3	1026			
		4	979			
		5	932			
		6	886			

**Table 48. 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
TWE060	High Static Motor 1.5 HP	0	1346	N/A	N/A	N/A
		1	1279			
		2	1212			
		3	1144			
		4	1077			
		5	1010			
TWE072	High Static Motor 2 HP	0	1094	N/A	N/A	N/A
		1	1039			
		2	984			
		3	930			
		4	875			
		5	820			
TWE090	High Static Motor 2 HP	0	1094	N/A	N/A	N/A
		1	1039			
		2	984			
		3	930			
		4	875			
		5	820			
TWE120	High Static Motor 3 HP	0	972	N/A	N/A	N/A
		1	923			
		2	875			
		3	826			
		4	778			
		5	729			
TWE120	High Static Motor with Field Supplied Components 3 HP	0	1129	Variable Pitch (2.8 - 3.8 Inch Pitch Diameter), 0.875 Inch Bore, Single Groove, Browning 1VP44	Fixed Pitch (6.0 Inch Pitch Diameter), 1.0 Inch Bore, Single Groove, Browning AK64	Browning A50
		1	1073			
		2	1016			
		3	960			
		4	903			
		5	847			
TWE180	High Static Motor 5 HP	0	1024	N/A	N/A	N/A
		1	989			
		2	953			
		3	918			
		4	882			
		5	847			
6	811					

**Table 48. High static fan motors - constant volume air handlers (continued)**

Model	Motor	Motor Sheave Turns Open	Nominal RPM	Required Field Supplied Components		
				Motor Sheave	Blower Sheave	Belt
TWE180	High Static Motor with Field Supplied Components 5 HP	0	1217	Variable Pitch (3.4 - 4.4 Inch Pitch Diameter), 1.125 Inch Bore, Single Groove, Browning 1VP50	Fixed Pitch (7.4 Inch Pitch Diameter), 1.4375 Inch Bore, Single Groove, Browning BK72	Browning BX58
		1	1175			
		2	1118			
		3	1062			
		4	1006			
		5	964			
TWE240	High Static Motor 7.5 HP	0	1294	N/A	N/A	N/A
		1	1243			
		2	1191			
		3	1140			
		4	1089			
		5	1037			
TWE240	High Static Motor with Field Supplied Components 7.5 HP	0	1315	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	1281			
		2	1243			
		3	1205			
		4	1168			
		5	1100			
6	1111					

**Table 49. 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 3 HP	0	1346	N/A	N/A	N/A
		1	1241			
		2	1136			
		3	1030			
		4	925			
		5	820			
TWE090	Ultra High Static Motor 3 HP	0	1346	N/A	N/A	N/A
		1	1241			
		2	1136			
		3	1030			
		4	925			
		5	820			
—	—					

**Table 50. Discharge plenum and grille assembly throw distance (ft) — air handler (60 Hz)**

Tons	Model No.	CFM	Louver Angle Deflection Position			
			Straight	20°	40°	55°
5	TWE0604*A/B	1600	42	31	26	20
		1800	46	37	29	22
		2000	48	43	33	24
		2200	51	50	36	25
		2400	54	57	39	29
6	TWE0724*B	1920	48	33	30	27
		2160	50	38	32	28
		2400	52	43	35	29
		2640	54	47	38	30
		2880	57	51	41	32



## Performance Data

**Table 50. Discharge plenum and grille assembly throw distance (ft) — air handler (60 Hz) (continued)**

Tons	Model No.	CFM	Louver Angle Deflection Position			
			Straight	20°	40°	55°
7.5	TWE0904*A/B	2400	52	43	35	29
		2700	55	48	38	31
		3000	58	53	42	32
		3300	62	57	46	35
		3600	66	60	50	37
10	TWE1204*A/B	3200	56	46	38	30
		3600	62	51	42	33
		4000	66	57	47	35
		4400	71	62	52	38
		4800	76	67	56	42
15	TWE1804*B	4900	47	38	32	25
		5400	52	44	37	29
		6000	57	49	41	32
		6600	61	53	43	34
		7200	65	57	46	35
20	TWE2404*B	6400	56	46	38	30
		7200	62	51	42	33
		8000	66	57	47	35
		8800	71	62	52	38
		9600	76	67	56	42

**Notes:**

1. Assumes incompressible and adiabatic flow through grille.
2. Throw distance values are based on a terminal velocity of 75 FPM.
3. Throw distance values at other terminal velocities may be established by multiplying throw distances in the table above by throw factor as follows: for 50 FPM terminal velocity, multiply by 1.50 throw factor; for 100 FPM terminal velocity, multiply by 0.75 throw factor; for 150 FPM terminal velocity, multiply by 0.50 throw factor.
4. SZVAV/2-Speed VFD available for 6–25 ton only.

**Table 51. Electric heat discharge plenum and grille airflow (CFM) - constant volume air handler (60Hz)**

Tons	Unit Model No.	Electric Heater Model No.	Airflow (CFM)	
			Minimum	Maximum
5	TWE06041A, B	BAYHTRS117*	2000	2400
	TWE06043A, B	BAYHTRR315*	2000	2400
	TWE06044A, B	BAYHTRR415*	2000	2400
6	TWE07243B	BAYHTRR315*	2000	2880
	TWE07243B	BAYHTRN325*	2000	2880
	TWE07244B	BAYHTRR415*	2000	2880
	TWE07244B	BAYHTRN425*	2000	2880
7.5	TWE09041A, B	BAYHTRS117*	3000	3600
	TWE09041A, B	BAYHTRR123*	3375	3600
7.5	TWE09043A, B	BAYHTRR315*	2625	3600
	TWE09043A, B	BAYHTRN325*	3000	3600
	TWE09044A, B	BAYHTRR415*	2625	3600
	TWE09044A, B	BAYHTRN425*	2625	3600
10	TWE12041A, B	BAYHTRS117*	3500	4800
	TWE12041A, B	BAYHTRR123*	4000	4800
10	TWE12043A, B	BAYHTRR315*	4000	4800
	TWE12043A, B	BAYHTRN325*	3500	4800
	TWE12044A, 4B	BAYHTRR415*	3500	4800
	TWE12044A, 4B	BAYHTRN425*	3500	4800
15	TWE18043B	BAYHTRP330*	5250	7200
	TWE18044B	BAYHTRP430*	5250	7200
20	TWE24043B	BAYHTRP330*	7000	9600
	TWE24044B	BAYHTRP430*	7000	9600

**Table 51. Electric heat discharge plenum and grille airflow (CFM) - constant volume air handler (60Hz) (continued)**

Tons	Unit Model No.	Electric Heater Model No.	Airflow (CFM)	
			Minimum	Maximum

**Notes:**

- On TWE07243B, TWE09043A/B, TWE12043A/B, TWE15043B and TWE18043B, constant volume air handler is field wired for 460V. Use with BAYHTR\*4\*\* only. See product catalog for more information.
- SZVAV/2-Speed VFD available for 6–25 ton only.

**Table 52. Static pressure drop through accessories (inches of water column) - air handler (60Hz)**

Tons	Unit Model No.	CFM	Return Grille	Discharge Plenum & Grille	2" MERV 13 Filter	Electric Heaters (kW)				Hydronic Coils	
						5–10	15–20	25–30	35–50	Steam	Hot Water
5	TWE0604*A/B	1600	0.12	0.21	0.22	0.08	0.08	0.14	—	0.44	0.31
		2000	0.18	0.33	0.29	0.13	0.13	0.19	—	0.62	0.44
		2400	0.28	0.47	0.36	0.19	0.19	0.37	—	0.80	0.59
6	TWE0724*B	1920	0.04	0.20	0.15	0.01	0.03	0.04	0.06	0.31	0.16
		2400	0.08	0.27	0.19	0.03	0.06	0.08	0.12	0.38	0.23
		2880	0.12	0.37	0.24	0.05	0.11	0.15	0.21	0.48	0.31
7.5	TWE0904*A/B	2400	0.08	0.27	0.19	0.03	0.06	0.08	0.12	0.38	0.23
		3000	0.13	0.40	0.25	0.06	0.12	0.17	0.23	0.50	0.33
		3600	0.18	0.58	0.31	0.08	0.16	0.24	0.32	0.66	0.44
10	TWE1204*A/B	3200	0.07	0.43	0.19	0.06	0.13	0.19	0.26	0.42	0.40
		4000	0.11	0.66	0.25	0.10	0.20	0.30	0.40	0.59	0.56
		4800	0.15	0.95	0.31	0.14	0.28	0.42	0.57	0.76	0.75
15	TWE1804*B	4800	0.09	0.23	0.19	0.03	0.03	0.06	0.08	0.46	0.38
		6000	0.15	0.34	0.25	0.06	0.06	0.12	0.17	0.64	0.54
		7200	0.20	0.49	0.31	0.08	0.08	0.16	0.24	0.82	0.72
20	TWE2404*B	6400	0.11	0.43	0.22	0.06	0.06	0.13	0.19	0.50	0.41
		8000	0.17	0.66	0.29	0.10	0.10	0.20	0.30	0.70	0.58
		9600	0.23	0.95	0.36	0.14	0.14	0.28	0.42	0.89	0.78

**Notes:**

- SZVAV/2-Speed VFD available for 6–25 ton only.
- Return air filter ESP included in Fan Performance Table data.
- Discharge plenum and grille - at louver opening angle of 42 degrees. For ESP at other angle openings, see accessory installation instructions.

**Table 53. Auxiliary electric heat capacity - air handler (60Hz)**

Unit Model No.	Total kW	No. of Stages	Stage 1		Stage 2		Total	
			kW Input	BTUH Output	kW Input	BTUH Output	kW Input	BTUH Output
TWE06041A, TWE06041B	5.76	1	5.76	19659	—	—	5.76	19659
	11.52	1	11.52	39318	—	—	11.52	39318
	17.28	1	17.28	58977	—	—	17.28	58977
	23.04	2	11.52	39318	11.52	39318	23.04	78636
TWE06043A, TWE06044A, TWE0604WA, TWE06043B, TWE06044B	5.00	1	5.00	17065	—	—	5.00	17065
	9.96	1	9.96	33993	—	—	9.96	33993
	14.96	1	14.96	51058	—	—	14.96	51058
	24.92	2	14.96	51058	9.96	33993	24.92	85051
TWE07243B, TWE07244B, TWE0724WB	5.00	1	5.00	17065	—	—	5.00	17065
	9.96	1	9.96	33993	—	—	9.96	33993
	14.96	1	14.96	51058	—	—	14.96	51058
	24.92	2	14.96	51058	9.96	33993	24.92	85051
TWE09041A, TWE09041B	5.76	1	5.76	19659	—	—	5.76	19659
	11.52	1	11.52	39318	—	—	11.52	39318
	17.28	1	17.28	58977	—	—	17.28	58977
	23.04	2	11.52	39318	11.52	39318	23.04	78636
	28.80	2	17.28	58977	11.52	39318	28.80	98295



## Performance Data

**Table 53. Auxiliary electric heat capacity - air handler (60Hz) (continued)**

Unit Model No.	Total kW	No. of Stages	Stage 1		Stage 2		Total	
			kW Input	BTUH Output	kW Input	BTUH Output	kW Input	BTUH Output
TWE09043A, TWE09043B, TWE0904WA, TWE0904WB	5.00	1	5.00	17065	-	-	5.00	17065
	9.96	1	9.96	33993	-	-	9.96	33993
	14.96	1	14.96	51058	-	-	14.96	51058
	24.92	2	14.96	51058	9.96	33993	24.92	85051
	34.88	2	19.92	67987	14.96	51058	34.88	119045
TWE09043B, TWE09044B, TWE0904WB	5.00	1	5.00	17065	-	-	5.00	17065
	9.96	1	9.96	33993	-	-	9.96	33993
	14.96	1	14.96	51058	-	-	14.96	51058
	24.92	2	14.96	51058	9.96	33993	24.92	85051
	34.88	2	19.92	67987	14.96	51058	34.88	119045
TWE12041A, TWE12041B	5.76	1	5.76	19659	-	-	5.76	19659
	11.52	1	11.52	39318	-	-	11.52	39318
	17.28	1	17.28	58977	-	-	17.28	58977
	23.04	2	11.52	39318	11.52	39318	23.04	78636
	28.80	2	17.28	58977	11.52	39318	28.80	98295
TWE12043A, TWE1204WA, TWE12044A, TWE12044B, TWE12043B, TWE1204WB	5.00	1	5.00	17065	-	-	5.00	17065
	9.96	1	9.96	33993	-	-	9.96	33993
	14.96	1	14.96	51058	-	-	14.96	51058
	24.92	2	14.96	51058	9.96	33993	24.92	85051
	34.88	2	19.92	67987	14.96	51058	34.88	119045
TWE18043B, TWE1804WB	10.00	1	10.00	34130	-	-	10.00	34130
	19.92	1	19.92	67987	-	-	19.92	67987
	29.92	2	19.92	67987	10.00	34130	29.92	102117
	49.84	2	29.92	102117	19.92	67987	49.84	170104
TWE18043B, TWE18044B, TWE1804WB	10.00	1	10.00	34130	-	-	10.00	34130
	19.92	1	19.92	67987	-	-	19.92	67987
	29.92	2	19.92	67987	10.00	34130	29.92	102117
	49.84	2	29.92	102117	19.92	67987	49.84	170104
TWE2404*B	10.00	1	10.00	34130	-	-	10.00	34130
	19.92	1	19.92	67987	-	-	19.92	67987
	29.92	2	19.92	67987	10.00	34130	29.92	102117
	49.84	2	29.92	102117	19.92	67987	49.84	170104

**Notes:**

1. On TWE07243B, TWE09043A/B, TWE12043A/B, TWE15043B and TWE18043B constant volume air handlers are field converted to 460V.
2. Heaters are rated at 240V, 480V, and 600V. For other than rated voltage, capacity = (Voltage/Related Voltage)<sup>2</sup> x Rated Capacity.
3. SZVAV/2-Speed VFD available for 6-25 ton only.



**Table 54. Steam heating coil capacity – air handler steam pressure (PSIG) (60Hz)**

Unit Model No.	Airflow (CFM)	EAT (°F)	Steam Pressure (PSIG)														
			2 PSI			5 PSI			10 PSI			15 PSI			25 PSI		
			LAT	MBh	Cond. lb/hr	LAT	MBh	Cond. lb/hr	LAT	MBh	Cond. lb/hr	LAT	MBh	Cond. lb/hr	LAT	MBh	Cond. lb/hr
TWE0604*- A, TWE0604*- B	1600	40	97	99	103	100	104	108	104	111	117	108	117	124	113	127	136
		60	111	88	91	114	93	97	118	100	105	121	106	112	127	116	124
		80	125	77	80	127	82	85	131	89	94	135	95	101	140	105	112
	2000	40	90	108	112	93	114	118	96	122	128	99	129	136	104	139	149
		60	104	96	100	107	102	106	111	110	115	114	116	123	119	127	136
		80	119	84	87	121	90	93	125	98	102	128	104	110	133	115	123
	2400	40	85	116	120	87	123	127	90	131	137	93	138	146	98	150	160
		60	100	104	107	102	110	114	105	118	124	108	125	132	113	137	146
		80	115	91	94	117	97	100	120	105	110	123	112	118	127	123	132
TWE072*B	1920	40	106	151	157	112	159	165	116	169	178	121	179	189	126	194	207
		60	120	134	139	124	141	147	128	153	160	133	162	172	139	177	189
		80	133	117	121	136	125	131	140	136	143	145	144	152	151	159	170
	2400	40	102	162	168	106	171	177	110	182	191	114	192	203	120	208	222
		60	115	144	149	119	152	158	123	164	172	127	174	184	133	190	203
		80	129	126	130	132	134	140	136	146	153	140	155	164	146	171	183
	2880	40	96	174	180	100	183	190	104	196	205	107	206	218	113	223	239
		60	110	154	159	113	163	170	117	176	184	121	186	197	126	204	218
		80	124	135	140	127	144	150	131	157	164	134	166	176	140	184	197
TWE0904*- A, TWE0904*- B	2400	40	102	162	168	106	171	177	110	182	191	114	192	203	120	208	222
		60	115	144	149	119	152	158	123	164	172	127	174	184	133	190	203
		80	129	126	130	132	134	140	136	146	153	140	155	164	146	171	183
	3000	40	95	178	183	97	187	194	101	200	209	105	210	222	110	228	244
		60	109	158	163	111	167	174	115	180	188	119	190	201	124	208	222
		80	122	138	143	125	147	153	129	160	168	132	170	180	138	188	201
	3600	40	89	191	197	91	201	208	95	215	225	97	226	239	103	245	262
		60	103	170	175	106	180	187	110	193	203	112	205	216	117	224	239
		80	118	149	154	121	158	164	124	172	180	127	183	194	132	202	216
TWE1204*- A, TWE1204*- B	3200	40	99	203	210	102	214	222	106	229	240	109	241	254	115	261	279
		60	112	181	187	115	191	199	119	206	216	123	218	230	129	238	255
		80	126	158	164	129	169	175	133	183	192	136	195	206	142	215	230
	4000	40	91	222	229	94	234	243	98	250	262	101	264	278	106	286	306
		60	106	198	204	108	209	217	112	225	236	115	239	252	120	261	279
		80	120	173	179	123	184	192	126	200	210	129	214	226	134	236	252
	4800	40	86	239	246	88	251	261	92	269	282	94	284	299	99	307	329
		60	101	212	219	103	225	233	107	242	254	109	257	271	114	280	300
		80	116	186	192	118	198	206	121	215	226	124	230	243	129	253	271
TWE1804*- B	4800	40	97	295	304	100	310	322	104	332	348	107	350	369	113	379	406
		60	110	262	271	113	278	288	117	299	313	121	317	334	126	346	370
		80	124	230	237	127	245	254	131	266	279	134	284	299	140	313	334
	6000	40	90	322	332	92	339	352	96	363	380	99	383	404	104	415	444
		60	104	287	296	107	303	315	110	327	343	113	347	366	118	379	405
		80	119	251	259	121	268	278	125	291	305	128	310	328	133	342	366
	7200	40	84	346	356	87	364	378	90	390	408	93	411	434	97	446	477
		60	99	308	318	102	326	338	105	351	368	108	373	393	112	407	435
		80	115	270	278	117	287	299	120	313	327	123	334	352	127	368	394



**Performance Data**

**Table 54. Steam heating coil capacity – air handler steam pressure (PSIG) (60Hz) (continued)**

Unit Model No.	Airflow (CFM)	EAT (°F)	Steam Pressure (PSIG)														
			2 PSI			5 PSI			10 PSI			15 PSI			25 PSI		
			LAT	MBh	Cond. lb/hr	LAT	MBh	Cond. lb/hr	LAT	MBh	Cond. lb/hr	LAT	MBh	Cond. lb/hr	LAT	MBh	Cond. lb/hr
TWE2404*-B	6400	40	95	379	391	97	399	414	102	427	447	105	450	475	110	488	522
		60	109	337	348	111	357	371	115	384	403	119	408	430	124	445	476
		80	123	295	305	125	315	327	129	342	358	133	365	385	138	402	430
	8000	40	88	414	426	90	436	452	94	467	488	97	492	519	102	534	571
		60	102	368	380	105	390	405	108	420	440	111	446	470	116	487	521
		80	117	322	333	120	344	357	123	374	392	126	399	421	131	440	471
	9600	40	83	443	457	85	468	485	88	501	524	91	529	558	95	574	613
		60	98	395	407	100	418	434	103	451	473	106	479	505	110	524	560
		80	113	346	357	115	369	383	119	402	421	121	429	453	125	473	506

**Notes:**

1. Type NS Coil, 1 Row, 1" OD, SF Fins, 132 Fins per Foot.
2. SZVAV/2-Speed VFD available for 6–25 ton only.
3. LAT = Leaving Air Temperature (°F)
4. MBh Capacity = BTU/HR/1000
5. Cond. Lb/Hr = Condensate pound per hour

**Table 55. Hot water heating coil capacity - air handler (60Hz)**

Tons	Unit Model No.	Airflow (CFM)	Enter Air Temp (°F)	Entering Water Temperature (°F)								
				180								
				Water Temperature Drop (°F)								
				20			30			40		
GPM	MBh	LAT	GPM	MBh	LAT	GPM	MBh	LAT				
5	TWE0604*A, TWE0604*B	1600	40	10.9	106.1	101.0	6.6	96.5	96.0	4.5	87.4	90.0
			60	9.0	88.3	111.0	5.4	79.1	106.0	3.6	70.3	100.0
			80	7.2	70.6	121.0	4.2	61.8	116.0	2.7	53.4	111.0
		2000	40	12.3	119.8	95.0	7.4	108.6	90.0	5.0	97.9	851.0
			60	10.2	99.6	106.0	6.1	88.8	101.0	4.0	78.6	96.0
			80	8.1	79.5	117.0	4.7	69.2	112.0	3.0	59.6	107.0
		2400	40	13.5	132.0	91.0	8.1	119.2	86.0	5.5	107.1	811.0
			60	11.2	109.6	102.0	6.6	97.4	97.0	4.4	85.9	931.0
			80	9.0	87.4	114.0	5.2	75.7	109.0	3.3	64.9	105.0
6	TWE072*B	1920	40	15.4	150.3	112.5	9.4	137.6	106.4	6.4	124.9	100.2
			60	12.8	124.9	120.2	7.6	111.3	113.7	5.2	101.5	109.0
			80	10.2	99.6	128.0	6.0	87.8	122.4	3.9	76.1	116.7
		2400	40	17.0	165.9	104.0	10.4	152.3	98.0	7.1	139.2	93.0
			60	14.2	138.4	113.0	8.5	125.2	108.0	5.7	112.5	103.0
			80	11.4	111.1	123.0	6.7	98.3	118.0	4.4	86.1	113.0
		2880	40	18.7	182.5	98.7	11.5	168.4	94.1	7.7	150.3	88.3
			60	15.6	152.3	109.0	9.2	134.7	103.3	6.4	124.9	100.2
			80	12.5	122.0	119.2	7.2	105.4	113.9	4.7	91.7	109.5
7.5	TWE0904*A, TWE0904*B	2400	40	17.0	165.9	104.0	10.4	152.3	98.0	7.1	139.2	93.0
			60	14.2	138.4	113.0	8.5	125.2	108.0	5.7	112.5	103.0
			80	11.4	111.1	123.0	6.7	98.3	118.0	4.4	86.1	113.0
		3000	40	19.3	187.9	98.0	11.7	171.9	93.0	8.0	156.5	88.0
			60	16.1	156.7	108.0	9.6	141.1	103.0	6.4	126.3	991.0
			80	12.9	125.5	119.0	7.5	110.6	114.0	4.9	96.5	110.0
		3600	40	21.2	207.3	93.0	12.9	189.1	88.0	8.8	171.6	84.0
			60	17.7	172.7	104.0	10.6	155.0	100.0	7.1	138.3	95.0
			80	14.2	138.2	115.0	8.3	121.2	111.0	5.4	105.4	107.0

**Table 55. Hot water heating coil capacity - air handler (60Hz) (continued)**

Tons	Unit Model No.	Airflow (CFM)	Enter Air Temp (°F)	Entering Water Temperature (°F)								
				180								
				Water Temperature Drop (°F)								
				20			30			40		
GPM	MBh	LAT	GPM	MBh	LAT	GPM	MBh	LAT				
10	TWE1204*A, TWE1204*B	3200	40	24.5	239.1	109.0	14.3	210.0	100.0	9.1	178.7	91.0
			60	20.2	197.3	117.0	11.5	168.4	108.0	6.9	134.8	99.0
			80	15.9	155.6	125.0	8.6	126.1	116.0	4.0	78.7	103.0
		4000	40	27.8	271.7	103.0	16.2	237.5	95.0	10.3	201.9	86.0
			60	22.9	223.8	112.0	13.0	190.3	104.0	7.8	153.3	95.0
			80	18.1	176.2	121.0	9.7	142.6	113.0	5.0	97.3	102.0
		4800	40	30.7	300.0	98.0	17.8	261.3	90.0	11.3	221.7	82.0
			60	25.3	246.9	107.0	14.3	209.1	100.0	8.6	168.9	92.0
			80	19.9	194.0	117.0	10.7	156.7	110.0	5.6	110.2	101.0
15	TWE1804*B	4800	40	35.2	343.9	106.0	21.2	310.3	100.0	14.1	276.3	93.0
			60	29.3	285.7	115.0	17.2	252.7	108.0	11.2	218.5	102.0
			80	23.3	227.7	124.0	13.3	195.0	117.0	8.2	159.9	111.0
		6000	40	40.0	390.3	100.0	23.9	350.8	94.0	15.9	311.4	88.0
			60	33.3	323.9	110.0	19.5	285.3	104.0	12.6	246.2	98.0
			80	26.4	257.7	120.0	15.0	219.9	114.0	9.2	180.5	108.0
		7200	40	44.2	431.3	95.0	26.4	386.5	89.0	17.5	342.1	84.0
			60	36.6	357.6	106.0	21.4	313.9	100.0	13.8	270.6	95.0
			80	29.1	284.2	116.0	16.5	241.6	111.0	10.1	198.3	105.0
20	TWE2404*B	6400	40	46.8	456.2	106.0	28.4	416.5	100.0	19.3	376.7	94.0
			60	39.0	380.2	115.0	23.3	341.2	109.0	15.4	301.7	103.0
			80	31.2	304.5	124.0	18.2	266.0	118.0	11.6	227.0	113.0
		8000	40	53.0	517.5	100.0	32.1	470.9	94.0	21.7	424.5	89.0
			60	44.2	430.9	110.0	26.3	385.2	104.0	17.4	339.6	99.0
			80	35.3	344.6	120.0	20.5	299.8	115.0	13.0	255.2	109.0
		9600	40	58.6	572.0	94.0	35.4	519.1	90.0	23.9	466.8	85.0
			60	48.8	475.9	106.0	28.9	424.2	101.0	19.1	373.3	96.0
			80	39.0	380.2	116.0	22.5	329.6	112.0	14.3	280.0	107.0



**Performance Data**

**Table 55. Hot water heating coil capacity - air handler (60Hz) (continued)**

Tons	Unit Model No.	Airflow (CFM)	Enter Air Temp (°F)	Entering Water Temperature (°F)								
				200								
				Water Temperature Drop (°F)								
				20			30			40		
GPM	MBh	LAT	GPM	MBh	LAT	GPM	MBh	LAT				
5	TWE0604*A, TWE0604*B	1600	40	12.9	124.9	112.0	7.9	115.4	106.0	5.5	106.3	101.0
			60	11.0	107.0	122.0	6.7	97.8	116.0	4.6	88.9	111.0
			80	9.2	89.1	131.0	5.5	80.2	126.0	3.7	71.7	121.0
		2000	40	4.5	141.3	105.0	8.9	130.1	100.0	6.1	119.4	95.0
			60	12.4	120.9	116.0	7.5	110.1	111.0	5.1	99.7	106.0
			80	10.4	100.6	126.0	6.2	90.2	122.0	4.1	80.3	117.0
		2400	40	6.0	155.8	100.0	9.8	143.1	95.0	6.7	131.0	90.0
			60	3.7	133.3	111.0	8.3	120.9	106.0	5.6	109.2	102.0
			80	11.4	110.8	123.0	6.8	98.9	118.0	4.5	87.8	114.0
6	TWE072*B	1920	40	17.9	174.7	124.3	11.2	164.0	119.1	7.9	154.2	114.4
			60	15.6	152.3	133.4	9.6	140.5	127.8	6.5	126.9	121.2
			80	13.0	126.9	141.2	8.0	117.1	136.5	5.4	105.4	130.8
		2400	40	20.0	194.8	115.0	12.4	181.2	110.0	8.6	168.2	105.0
			60	17.2	167.1	124.0	10.6	153.9	119.0	7.2	141.2	114.0
			80	14.4	139.6	134.0	8.7	126.8	129.0	5.9	114.3	124.0
		2880	40	21.9	213.7	108.7	13.7	200.6	104.5	9.6	187.4	100.2
			60	19.0	185.4	119.6	11.7	171.3	115.1	8.0	156.2	110.2
			80	15.8	154.2	129.6	9.7	142.0	125.7	6.5	126.9	120.8
7.5	TWE0904*A, TWE0904*B	2400	40	20.0	194.8	115.0	12.4	181.2	110.0	8.6	168.2	105.0
			60	17.2	167.1	124.0	10.6	153.9	119.0	7.2	141.2	114.0
			80	14.4	139.6	134.0	8.7	126.8	129.0	5.9	114.3	124.0
		3000	40	22.7	220.9	108.0	14.0	204.9	103.0	9.7	189.6	98.0
			60	9.5	189.4	118.0	11.9	173.9	113.0	8.2	159.0	109.0
			80	16.3	158.1	129.0	9.8	143.0	124.0	6.6	128.5	119.0
		3600	40	25.1	244.0	102.0	15.5	225.7	98.0	0.7	208.4	93.0
			60	21.5	209.1	113.0	13.1	191.4	109.0	9.0	174.4	105.0
			80	17.9	174.3	125.0	10.8	157.1	120.0	7.2	140.9	116.0
10	TWE1204*A, TWE1204*B	3200	40	29.3	284.7	122.0	17.6	256.8	114.0	11.7	228.6	106.0
			60	25.0	242.6	130.0	14.7	215.2	122.0	9.6	186.9	114.0
			80	20.6	200.6	138.0	11.9	173.6	130.0	7.4	144.3	122.0
		4000	40	33.4	324.1	115.0	19.9	291.0	107.0	13.3	258.2	99.0
			60	28.4	275.8	124.0	16.7	243.6	116.0	10.8	211.0	109.0
			80	23.4	227.7	132.0	13.4	196.2	125.0	8.4	163.2	118.0
		4800	40	36.9	358.3	109.0	22.0	320.7	102.0	14.6	283.7	94.0
			60	31.4	304.7	118.0	18.4	268.1	111.0	11.9	231.6	104.0
			80	25.9	251.3	128.0	14.8	215.6	121.0	9.2	179.4	114.0
15	TWE1804*B	4800	40	41.8	406.0	118.0	25.6	373.4	112.0	17.5	341.0	105.0
			60	35.8	347.5	127.0	21.6	315.4	121.0	14.6	283.4	114.0
			80	29.8	289.1	135.0	17.7	257.6	129.0	11.6	225.7	123.0
		6000	40	7.5	461.4	111.0	29.0	423.0	105.0	19.8	385.0	99.0
			60	40.6	394.6	121.0	24.5	356.9	115.0	16.4	319.6	109.0
			80	33.8	327.9	130.0	19.9	291.0	125.0	13.1	254.3	119.0
		7200	40	52.5	510.4	105.0	32.0	466.7	100.0	21.8	423.8	94.0
			60	44.9	436.3	116.0	27.0	393.5	110.0	18.0	351.4	105.0
			80	37.3	362.2	126.0	22.0	320.5	121.0	14.3	279.5	116.0

**Table 55. Hot water heating coil capacity - air handler (60Hz) (continued)**

Tons	Unit Model No.	Airflow (CFM)	Enter Air Temp (°F)	Entering Water Temperature (°F)								
				200								
				Water Temperature Drop (°F)								
				20			30			40		
				GPM	MBh	LAT	GPM	MBh	LAT	GPM	MBh	LAT
20	TWE2404*B	6400	40	55.2	536.5	117.0	34.1	497.8	112.0	23.6	459.4	106.0
			60	47.4	460.2	126.0	28.9	422.1	121.0	19.7	384.2	115.0
			80	39.5	384.0	135.0	23.8	346.5	130.0	15.9	308.9	124.0
		8000	40	62.7	609.2	110.0	38.6	563.8	105.0	26.6	518.8	100.0
			60	53.8	522.2	120.0	32.7	477.6	115.0	22.2	433.3	110.0
			80	44.8	435.4	130.0	26.8	391.5	125.0	17.9	347.9	120.0
		9600	40	69.4	673.9	105.0	42.7	622.3	100.0	29.3	571.5	95.0
			60	59.4	577.4	115.0	36.1	526.8	111.0	24.5	476.7	106.0
			80	49.5	481.0	126.0	29.6	431.4	121.0	19.6	382.6	117.0
Tons	Unit Model No.	Airflow (CFM)	Enter Air Temp (°F)	Entering Water Temperature (°F)								
				210								
				Water Temperature Drop (°F)								
				20			30			40		
				GPM	MBh	LAT	GPM	MBh	LAT	GPM	MBh	LAT
5	TWE0604*A, TWE0604*B	1600	40	13.9	134.3	117.0	8.6	124.8	112.0	6.0	115.8	107.0
			60	12.0	116.3	127.0	7.4	107.1	122.0	5.1	98.3	117.0
			80	10.2	98.4	137.0	6.1	89.5	132.0	4.2	80.9	127.0
		2000	40	15.7	152.0	110.0	9.7	140.9	105.0	6.7	130.2	100.0
			60	13.6	131.6	121.0	8.3	120.7	116.0	5.7	110.5	111.0
			80	11.5	111.2	131.0	6.9	100.7	126.0	4.7	90.7	122.0
		2400	40	17.3	167.7	104.0	10.6	155.0	99.0	7.4	142.9	95.0
			60	15.0	145.1	116.0	9.1	132.8	111.0	6.2	121.0	106.0
			80	12.6	122.6	127.0	7.6	110.6	122.0	5.1	99.3	118.0
6	TWE072*B	1920	40	19.5	190.3	131.8	12.0	175.7	124.7	8.5	165.9	120.0
			60	16.8	164.0	139.1	10.4	152.3	133.4	7.3	142.5	128.7
			80	14.5	141.5	148.2	8.8	128.8	142.1	5.9	115.2	135.5
		2400	40	21.6	209.2	120.0	13.4	195.7	115.0	9.4	182.7	110.0
			60	18.7	181.5	130.0	11.6	168.3	125.0	8.0	155.6	120.0
			80	15.9	153.9	139.0	9.7	141.0	134.0	6.6	128.6	129.0
		2880	40	23.9	233.3	115.0	14.7	215.2	109.2	10.3	201.1	104.6
			60	20.6	201.1	124.6	12.7	185.9	119.8	8.8	171.8	115.2
			80	17.7	172.8	135.5	10.6	155.2	129.9	7.1	138.6	124.6
7.5	TWE0904*A, TWE0904*B	2400	40	21.6	209.2	120.0	13.4	195.7	115.0	9.4	182.7	110.0
			60	18.7	181.5	130.0	11.6	168.3	125.0	8.0	155.6	120.0
			80	15.9	153.9	139.0	9.7	141.0	134.0	6.6	128.6	129.0
		3000	40	24.5	237.4	113.0	15.2	221.5	108.0	10.6	206.2	103.0
			60	21.2	205.8	123.0	13.1	190.3	118.0	9.0	175.4	114.0
			80	18.0	174.4	134.0	10.9	159.2	129.0	7.4	144.7	124.0
		3600	40	27.1	262.3	107.0	16.8	244.1	102.0	11.7	226.8	98.0
			60	23.4	227.3	118.0	14.4	209.6	114.0	9.9	192.6	109.0
			80	19.8	192.4	129.0	12.0	175.2	125.0	8.2	158.7	121.0



**Performance Data**

**Table 55. Hot water heating coil capacity - air handler (60Hz) (continued)**

Tons	Unit Model No.	Airflow (CFM)	Enter Air Temp (°F)	Entering Water Temperature (°F)								
				210								
				Water Temperature Drop (°F)								
				20			30			40		
GPM	MBh	LAT	GPM	MBh	LAT	GPM	MBh	LAT				
10	TWE1204*A, TWE1204*B	3200	40	31.7	307.4	129.0	19.2	279.9	121.0	13.0	252.6	113.0
			60	27.4	265.1	136.0	16.4	238.2	129.0	10.9	211.0	121.0
			80	23.0	223.0	144.0	13.5	196.5	137.0	8.7	169.1	129.0
		4000	40	36.1	350.2	121.0	21.8	317.6	113.0	14.7	285.5	106.0
			60	31.1	301.7	130.0	18.5	269.9	122.0	12.3	238.2	115.0
			80	26.1	253.4	138.0	15.3	222.3	131.0	9.8	190.8	124.0
		4800	40	40.0	387.4	114.0	24.1	350.3	107.0	16.2	313.9	100.0
			60	34.4	333.6	124.0	20.4	297.3	117.0	13.5	261.7	110.0
			80	28.9	279.9	134.0	16.8	244.6	127.0	10.8	209.5	120.0
15	TWE1804*B	4800	40	45.1	437.0	124.0	27.8	404.7	118.0	19.2	372.9	112.0
			60	39.0	378.3	133.0	23.8	346.6	127.0	16.2	315.2	120.0
			80	33.0	319.8	141.0	19.8	288.6	135.0	13.3	257.5	129.0
		6000	40	51.3	496.8	116.0	31.5	458.9	110.0	21.7	421.5	105.0
			60	44.4	429.9	126.0	27.0	392.6	120.0	18.3	355.8	115.0
			80	37.5	363.0	136.0	22.4	326.5	130.0	14.9	290.3	125.0
		7200	40	56.7	549.8	110.0	34.8	506.7	105.0	23.9	464.3	99.0
			60	49.1	475.5	121.0	29.8	433.1	115.0	20.2	391.5	110.0
			80	41.4	401.3	131.0	24.7	359.8	126.0	16.4	319.0	121.0
20	TWE2404*B	6400	40	59.5	576.5	123.0	37.0	538.3	118.0	25.8	500.5	112.0
			60	51.6	500.0	132.0	31.8	462.4	127.0	21.9	425.0	121.0
			80	43.7	423.7	141.0	26.6	386.6	136.0	18.0	349.7	130.0
		8000	40	67.6	654.9	115.0	41.9	610.0	110.0	29.1	565.7	105.0
			60	58.6	567.8	125.0	36.0	523.6	120.0	24.7	479.9	115.0
			80	49.6	480.7	135.0	30.0	437.3	130.0	20.3	394.2	125.0
		9600	40	74.8	724.6	110.0	46.3	673.8	105.0	32.1	623.6	100.0
			60	64.8	628.0	120.0	39.7	578.0	115.0	27.2	528.4	111.0
			80	54.8	531.4	131.0	33.1	482.2	126.0	22.3	433.5	122.0

- Notes:
1. SZVAV/2-Speed VFD available for 6–25 ton only.
  2. GPM = Gallons Per Minute
  3. MBh Capacity: BTU/HR/1000
  4. LAT = Leaving Air Temperature (°F)

**Table 56. Hot water heating coil - water side pressure drop @ 180°F entering water temperature - air handler (60Hz)**

Tons	Unit Model No.	Gallons Per Minute (GPM)																		
		2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38
		Pressure Drop (Ft. of Water)																		
5	TWE0604*A/B	0.02	0.07	0.15	0.26	0.40	0.56	0.75	0.97	1.22	1.49	1.78	-	-	-	-	-	-	-	-
6	TWE0724*B	-	-	0.06	0.11	0.16	0.23	0.30	0.39	0.48	0.58	0.70	0.82	0.95	1.09	1.24	1.40	1.57	-	-
7.5	TWE0904*A,B	-	-	0.06	0.11	0.16	0.23	0.30	0.39	0.48	0.58	0.70	0.82	0.95	1.09	1.24	1.40	1.57	-	-
10	TWE1204*A,B	-	-	-	0.06	0.09	0.13	0.17	0.22	0.27	0.33	0.39	0.46	0.54	0.62	0.70	0.79	0.89	0.99	1.10
15	TWE1804*B	-	-	-	-	0.11	0.15	0.20	0.26	0.32	0.39	0.47	0.55	0.64	0.73	0.83	0.94	1.05	1.17	1.29
20	TWE2404*B	-	-	-	-	-	0.17	0.23	0.30	0.37	0.45	0.53	0.63	0.72	0.83	0.94	1.06	1.19	1.32	1.46
Tons	Unit Model No.	Gallons Per Minute (GPM)																		
		40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76
		Pressure Drop (Ft. of Water)																		
5	TWE0604*A/B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	TWE0724*B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.5	TWE0904*A,B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	TWE1204*A,B	1.21	1.32	1.44	1.57	1.70	1.84	-	-	-	-	-	-	-	-	-	-	-	-	-

**Table 56. Hot water heating coil - water side pressure drop @ 180°F entering water temperature - air handler (60Hz)  
(continued)**

Tons	Unit Model No.	Gallons Per Minute (GPM)																		
		40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76
		Pressure Drop (Ft. of Water)																		
15	TWE1804*B	1.42	1.56	1.70	1.85	2.00	2.16	2.33	2.50	2.67	2.86	3.04	3.24	3.44	3.64	3.85	4.07	-	-	-
20	TWE2404*B	1.61	1.76	1.92	2.09	2.26	2.44	2.63	2.82	3.02	3.22	3.43	3.65	3.87	4.10	4.34	4.58	4.83	5.08	5.34

**Note:** SZVAV/2-Speed VFD available for 6-25 ton only.



# 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.*

<b>Non-Programmable Thermostats</b>	
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
<b>Programmable Thermostats</b>	
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 57. Electrical characteristics — compressor and condenser fan motors — heat pumps — 60Hz**

Tons	Unit Model Number	Compressor Motors						Condenser Fan Motor				
		Volts	Phase	Compressor 1		Compressor 2		No.	Volts	Phase	Amps	
				Amps		Amps					FLA (Ea.)	LRA (Ea.)
				RLA	LRA	RLA	LRA					
6	TWA07243A	208-230	3	22.4	149	N/A	N/A	1	208-230	3	2.2	8.4
	TWA07244A	460	3	10.6	75	N/A	N/A	1	460	3	1.3	4.2
	TWA0724WA	575	3	7.7	54	N/A	N/A	1	575	3	1.1	3.6
	TWA0724KA	380	3	11.3	88	N/A	N/A	1	380	3	1.5	5.2
6	TWA07243D	208-230	3	10.4	73	10.4	73	1	208-230	3	2.2	8.4
	TWA07244D	460	3	5.8	38	5.8	38	1	460	3	1.3	4.2
	TWA0724WD	575	3	3.8	37	3.8	37	1	575	3	1.1	3.6
7.5	TWA09043A	208-230	3	28.6	208	N/A	N/A	1	208-230	3	2.2	8.4
	TWA09044A	460	3	12.9	98	N/A	N/A	1	460	3	1.3	4.2
	TWA0904WA	575	3	10.7	75	N/A	N/A	1	575	3	1.1	3.6
	TWA0904KA	380	3	15.7	117	N/A	N/A	1	380	3	1.5	5.2
7.5	TWA09043D	208-230	3	13.1	83	13.1	83	1	208-230	3	2.2	8.4
	TWA09044D	460	3	6.1	41	6.1	41	1	460	3	1.3	4.2
	TWA0904WD	575	3	4.4	33	4.4	33	1	575	3	1.1	3.6
	TWA0904KD	380	3	7.6	52	7.6	52	1	380	3	1.5	5.2
10	TWA12043A	208-230	3	33.0	267	N/A	N/A	1	208-230	3	4.8	20.0
	TWA12044A	460	3	17.8	142	N/A	N/A	1	460	3	2.5	10.1
	TWA1204WA	575	3	15.8	103	N/A	N/A	1	575	3	1.9	8.0
	TWA1204KA	380	3	25.1	160	N/A	N/A	1	380	3	3.1	12.6
10	TWA12043D	208-230	3	16.0	110	16.0	110	1	208-230	3	4.8	20.0
	TWA12044D	460	3	7.8	52	7.8	52	1	460	3	2.5	10.1
	TWA1204WD	575	3	5.7	39	5.7	39	1	575	3	1.9	8.0
	TWA1204KD	380	3	8.5	66	8.5	66	1	380	3	3.1	12.6
15	TWA18043D	208-230	3	25.0	164	25.0	164	2	208-230	3	4.8	20.0
	TWA18044D	460	3	12.2	100	12.2	100	2	460	3	2.5	10.1
	TWA1804WD	575	3	9.2	78	9.2	78	2	575	3	1.9	8.0
	TWA1804KD	380	3	13.9	94	13.9	94	2	380	3	3.1	12.6
20	TWA24043D	208-230	3	33.8	239	33.8	239	2	208-230	3	4.8	20.0
	TWA24044D	460	3	18.0	125	18.0	125	2	460	3	2.5	10.1
	TWA2404WD	575	3	13.7	80	13.7	80	2	575	3	1.9	8.0
	TWA2404KD	380	3	24.4	145	24.4	145	2	380	3	3.1	12.6

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

**Table 58. Unit wiring — heat pumps — 60Hz**

Tons	Unit Model Number	Volts	Minimum Circuit Ampacity	Maximum Fuse or Circuit Breaker Size
6	TWA07243A	187-253	30	50
	TWA07244A	414-506	15	25
	TWA0724WA	518-632	11	15
	TWA0724KA	342-618	16	25
6	TWA07243D	187-253	26	35
	TWA07244D	414-506	14	20
	TWA0724WD	518-632	10	15



## Electrical Data

**Table 58. Unit wiring – heat pumps – 60Hz (continued)**

Tons	Unit Model Number	Volts	Minimum Circuit Ampacity	Maximum Fuse or Circuit Breaker Size
7.5	TWA09043A	187-253	38	60
	TWA09044A	414-506	17	30
	TWA0904WA	518-632	14	25
	TWA0904KA	342-618	21	35
7.5	TWA09043D	187-253	32	40
	TWA09044D	414-506	15	20
	TWA0904WD	518-632	11	15
	TWA0904KD	342-618	19	25
10	TWA12043A	187-253	46	70
	TWA12044A	414-506	25	40
	TWA1204WA	518-632	22	35
	TWA1204KA	342-618	34	50
10	TWA12043D	187-253	41	50
	TWA12044D	414-506	20	25
	TWA1204WD	518-632	15	20
	TWA1204KD	342-618	22	30
15	TWA18043D	187-253	66	90
	TWA18044D	414-506	32	40
	TWA1804WD	518-632	25	30
	TWA1804KD	342-618	37	50
20	TWA24043D	187-253	86	110
	TWA24044D	414-506	46	60
	TWA2404WD	518-632	35	45
	TWA2404KD	342-618	61	80

## Air Handler

**Table 59. Voltage operating range (all air handlers)**

Model Number: Digit 8	Electrical Characteristics	Unit Operating Voltage Range
1	208-230/60/1	187-253
3	208-230/60/3	187-253
4	460/60/3	414-506
K	380/60/3	342-418
W	575/60/3	518-632

**Table 60. Electrical characteristics – 5–20 ton standard and low static motors – 60 Hz constant volume air handler**

Tons	Unit Model Number	Standard Evaporator Fan Motor								Low Static Evaporator Fan Motor							
		No.	Volts	Phase	HP	Amps		MCA	MOP	No.	Volts	Phase	HP	Amps		MCA	MOP
						FLA	LRA							FLA	LRA		
5	TWE06041A/B	1	208-230	1	0.75	6.0	41.0	8	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE06043A/B	1	208-230	3	0.75	2.6	16.0	3	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE0604KA	1	380	3	0.75	2.9	8.0	4	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE06044A/B	1	460	3	0.75	1.3	8.0	2	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE0604WA	1	575	3	0.75	1.3	6.0	2	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	TWE07243B	1	208-230	3	1.5	5.3	34.0	7	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE0724KB	1	380	3	1.5	3.0	20.0	4	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE07243B	1	460	3	1.5	2.5	17.0	3	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE0724WB	1	575	3	1.5	1.7	14.0	2	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**Table 60. Electrical characteristics — 5–20 ton standard and low static motors — 60 Hz constant volume air handler (continued)**

Tons	Unit Model Number	Standard Evaporator Fan Motor								Low Static Evaporator Fan Motor							
		No.	Volts	Phase	HP	Amps		MCA	MOP	No.	Volts	Phase	HP	Amps		MCA	MOP
						FLA	LRA							FLA	LRA		
7.5	TWE09041A/B	1	208-230	1	1.5	6.7	31.0	8	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE09043A/B	1	208-230	3	1.5	5.3	34.0	7	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE0904KA/B	1	380	3	1.5	3.0	20.0	4	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE09043A/B	1	460	3	1.5	2.5	17.0	3	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE0904WA/B	1	575	3	1.5	1.7	14.0	2	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10	TWE12041A/B	1	208-230	1	2	8.5	64.1	11	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE12043A/B	1	208-230	3	2	6.1	53.6	8	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE1204KA/B	1	380	3	2	3.3	28.0	4	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE12044A/B	1	460	3	2	3.1	27.2	4	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE1204WA/B	1	575	3	2	2.3	15.6	3	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
15	TWE18043B	1	208-230	3	3	9.4	74.9	12	20	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE1804KB	1	380	3	3	5.6	47.7	7	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE18043B	1	460	3	3	4.6	39.3	6	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE1804WB	1	575	3	3	3.4	24.6	4	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20	TWE24043B	1	208-230	3	5	14.0	90.8	18	30	1	208-230	3	3	9.4	75.0	12	20
	TWE2404KB	1	380	3	5	8.1	63.5	10	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE24044B	1	460	3	5	6.3	44.8	8	15	1	460	3	3	4.6	39.0	6	15
	TWE2404WB	1	575	3	5	5.3	36.2	7	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A



**Electrical Data**

**Table 61. Electrical characteristics — 5–20 ton high and ultra-high static motors — 60 Hz constant volume air handler**

Tons	Unit Model Number	High Static Evaporator Fan Motor								Ultra-High Static Evaporator Fan Motor							
		No.	Volts	Phase	HP	Amps		MCA	MOP	No.	Volts	Phase	HP	Amps		MCA	MOP
						FLA	LRA							FLA	LRA		
5	TWE06041A/B	1	208-230	1	1.5	6.7	30.7	8	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE06043A/B	1	208-230	3	1.5	5.3	34.3	7	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE0604KA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE06044A/B	1	460	3	1.5	2.5	17.0	3	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE0604WA	1	575	3	1.5	1.7	14.0	2	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	TWE07243B	1	208-230	3	2	6.1	53.6	8	15	1	208-230	3	3	9.4	74.9	12	20
	TWE0724KB	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE07243B	1	460	3	2	3.1	27.2	4	15	1	460	3	3	4.6	39.3	6	15
	TWE0724WB	1	575	3	2	2.3	15.6	3	15	1	575	3	3	3.4	24.6	4	15
7.5	TWE09041A/B	1	208-230	1	2	8.5	64.1	11	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE09043A/B	1	208-230	3	2	6.1	53.6	8	15	1	208-230	3	3	9.4	74.9	12	20
	TWE0904KA/B	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE09044A/B	1	460	3	2	3.1	27.2	4	15	1	460	3	3	4.6	39.3	6	15
	TWE0904WA/B	1	575	3	2	2.3	15.6	3	15	1	575	3	3	3.4	24.6	4	15
10	TWE12041A/B	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE12043A/B	1	208-230	3	3	9.4	74.9	12	20	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE1204KA/B	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE12043A/B	1	460	3	3	4.6	39.3	6	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE1204WA/B	1	575	3	3	3.4	24.6	4	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
15	TWE18043B	1	208-230	3	5	14.0	90.8	18	30	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE1804KB	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE18043B	1	460	3	5	6.5	45.3	8	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE1804WB	1	575	3	5	5.3	36.2	7	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20	TWE24043B	1	208-230	3	7.5	19.6	150.0	25	40	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE2404KB	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE24044B	1	460	3	7.5	8.9	75.0	11	20	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE2404WB	1	575	3	7.5	7.1	60.0	9	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**Table 62. Electrical characteristics — standard and oversized motors — 6–20 ton SZVAV and 2-Speed VFD air handler — 60 Hz**

Tons	Unit Model Number	Standard Evaporator Fan Motor								High Static Evaporator Fan Motor							
		No.	Volts	Phase	HP	Amps		MCA	MOP	No.	Volts	Phase	HP	Amps		MCA	MOP
						FLA	LRA							FLA	LRA		
6	TWE07243B	1	208-230	3	2	6.1	53.6	8	15	1	208-230	3	3	9.4	71.0	12	20
	TWE07244B	1	460	3	2	3.1	27.2	4	15	1	460	3	3	4.6	35.5	6	15
	TWE0724WB	1	575	3	2	2.2	20.6	3	15	1	575	3	3	3.7	28.4	5	15
7.5	TWE09043B	1	208-230	3	2	6.1	53.6	8	15	1	208-230	3	3	9.4	71.0	12	20
	TWE09044B	1	460	3	2	3.1	27.2	4	15	1	460	3	3	4.6	35.5	6	15
	TWE0904WB	1	575	3	2	2.2	20.6	3	15	1	575	3	3	3.7	28.4	5	15
10	TWE12043A/B	1	208-230	3	2	6.1	53.6	8	15	1	208-230	3	3	9.4	71.0	12	20
	TWE12044A/B	1	460	3	2	3.1	27.2	4	15	1	460	3	3	4.6	35.5	6	15
	TWE1204WA/B	1	575	3	2	2.2	20.6	3	15	1	575	3	3	3.7	28.4	5	15
15	TWE18043B	1	208-230	3	3	9.4	71.0	12	20	1	208-230	3	5	13.4	99.5	17	30
	TWE18044B	1	460	3	3	4.6	35.5	6	15	1	460	3	5	6.5	110.0	8	15
	TWE1804WB	1	575	3	3	3.7	28.4	5	15	1	575	3	5	5.1	44.0	6	15

**Table 62. Electrical characteristics — standard and oversized motors — 6–20 ton SZVAV and 2-Speed VFD air handler — 60 Hz (continued)**

Tons	Unit Model Number	Standard Evaporator Fan Motor								High Static Evaporator Fan Motor							
		No.	Volts	Phase	HP	Amps		MCA	MOP	No.	Volts	Phase	HP	Amps		MCA	MOP
						FLA	LRA							FLA	LRA		
20	TWE24043B	1	208-230	3	5	13.4	99.5	17	30	1	208-230	3	7.5	20.0	113.4	25	40
	TWE24044B	1	460	3	5	6.5	110.0	8	15	1	460	3	7.5	8.8	63.0	11	15
	TWE2404WB	1	575	3	5	5.1	44.0	6	15	1	575	3	7.5	7.1	50.4	9	15

**Table 63. Unit wiring with electric heat (single point connection) — 5-20 ton constant volume air handlers — 60 Hz**

Tons	Used With	Heater Model Number	Heater kW Rating	Unit Power Supply	Control Stages	Standard Evap Motor		High Static Evap Motor		Ultra High Static Evap Motor		Low Static Evap Motor	
						MCA	MOP	MCA	MOP	MCA	MOP	MCA	MOP
5	TWE06041A/B	BAYHTRN106*	4.33	208/1/60	1	34	35	34	35	N/A	N/A	N/A	N/A
		BAYHTRR112*	8.65		1	59	60	60	70	N/A	N/A	N/A	N/A
		BAYHTRS117*	12.98		1	86	90	86	90	N/A	N/A	N/A	N/A
		BAYHTRR123*	17.31		2	111	125	112	125	N/A	N/A	N/A	N/A
5	TWE06041A/B	BAYHTRN106*	5.76	230/1/60	1	38	40	38	40	N/A	N/A	N/A	N/A
		BAYHTRR112*	11.52		1	68	70	68	70	N/A	N/A	N/A	N/A
		BAYHTRS117*	17.28		1	98	100	98	100	N/A	N/A	N/A	N/A
		BAYHTRR123*	23.04		2	128	150	128	150	N/A	N/A	N/A	N/A
5	TWE06043A/B	BAYHTRN305*	3.76	208/3/60	1	16	20	20	20	N/A	N/A	N/A	N/A
		BAYHTRR310*	7.48		1	29	30	33	35	N/A	N/A	N/A	N/A
		BAYHTRR315*	11.24		1	42	45	46	50	N/A	N/A	N/A	N/A
		BAYHTRN325*	18.72		2	68	70	72	80	N/A	N/A	N/A	N/A
5	TWE06043A/B	BAYHTRN305*	5	230/3/60	1	18	20	22	25	N/A	N/A	N/A	N/A
		BAYHTRR310*	9.96		1	33	35	37	40	N/A	N/A	N/A	N/A
		BAYHTRR315*	14.96		1	48	50	52	60	N/A	N/A	N/A	N/A
		BAYHTRN325*	24.92		2	78	80	82	90	N/A	N/A	N/A	N/A
5	TWE06044A/B	BAYHTRN405*	5	460/3/60	1	9	15	11	15	N/A	N/A	N/A	N/A
		BAYHTRR410*	9.96		1	17	20	18	20	N/A	N/A	N/A	N/A
		BAYHTRR415*	14.96		1	24	25	26	30	N/A	N/A	N/A	N/A
		BAYHTRN425*	24.92		2	39	40	41	45	N/A	N/A	N/A	N/A
5	TWE0604WA	BAYHTRNW05*	5	575/3/60	1	8	15	8	15	N/A	N/A	N/A	N/A
		BAYHTRRW10*	9.96		1	14	15	14	15	N/A	N/A	N/A	N/A
		BAYHTRRW15*	14.96		1	20	20	20	25	N/A	N/A	N/A	N/A
		BAYHTRNW25*	24.92		2	32	35	32	35	N/A	N/A	N/A	N/A
6	TWE07243B	BAYHTRN305*	3.76	208/3/60	1	20	20	21	25	25	30	N/A	N/A
		BAYHTRR310*	7.48		1	33	35	34	35	38	40	N/A	N/A
		BAYHTRR315*	11.24		1	46	50	47	50	51	60	N/A	N/A
		BAYHTRN325*	18.72		2	72	80	73	80	77	80	N/A	N/A
6	TWE07243B	BAYHTRN305*	5.00	230/3/60	1	22	25	23	25	27	30	N/A	N/A
		BAYHTRR310*	9.96		1	37	40	38	40	42	45	N/A	N/A
		BAYHTRR315*	14.96		1	52	60	53	60	57	60	N/A	N/A
		BAYHTRN325*	24.92		2	82	90	83	90	87	90	N/A	N/A
6	TWE07243B	BAYHTRN405*	5.00	460/3/60	1	11	15	11	15	13	15	N/A	N/A
		BAYHTRR410*	9.96		1	18	20	19	20	21	25	N/A	N/A
		BAYHTRR415*	14.96		1	26	30	26	30	28	30	N/A	N/A
		BAYHTRN425*	24.92		2	41	45	41	45	43	45	N/A	N/A



**Electrical Data**

**Table 63. Unit wiring with electric heat (single point connection) – 5-20 ton constant volume air handlers – 60 Hz (continued)**

Tons	Used With	Heater Model Number	Heater kW Rating	Unit Power Supply	Control Stages	Standard Evap Motor		High Static Evap Motor		Ultra High Static Evap Motor		Low Static Evap Motor	
						MCA	MOP	MCA	MOP	MCA	MOP	MCA	MOP
6	TWE0724WB	BAYHTRNW05*	5.00	575/3/60	1	8	15	9	15	10	15	N/A	N/A
		BAYHTRRW10*	9.96		1	14	15	15	15	16	20	N/A	N/A
		BAYHTRRW15*	14.96		1	20	25	21	25	22	25	N/A	N/A
		BAYHTRNW25*	24.92		2	32	35	33	35	34	35	N/A	N/A
7.5	TWE09041A/B	BAYHTRN106*	4.33	208/1/60	1	34	35	37	40	N/A	N/A	N/A	N/A
		BAYHTRR112*	8.65		1	60	70	63	70	N/A	N/A	N/A	N/A
		BAYHTRS117*	12.98		1	86	90	89	90	N/A	N/A	N/A	N/A
		BAYHTRR123*	17.31		2	112	125	115	125	N/A	N/A	N/A	N/A
		BAYHTRN129*	21.63		2	138	150	141	150	N/A	N/A	N/A	N/A
7.5	TWE09041A/B	BAYHTRN106*	5.76	230/1/60	1	38	40	41	45	N/A	N/A	N/A	N/A
		BAYHTRR112*	11.52		1	68	70	71	80	N/A	N/A	N/A	N/A
		BAYHTRS117*	17.28		1	98	100	101	110	N/A	N/A	N/A	N/A
		BAYHTRR123*	23.04		2	128	150	131	150	N/A	N/A	N/A	N/A
		BAYHTRN129*	28.8		2	158	175	161	175	N/A	N/A	N/A	N/A
7.5	TWE09043A/B	BAYHTRN305*	3.76	208/3/60	1	20	20	21	25	25	30	N/A	N/A
		BAYHTRR310*	7.48		1	33	35	34	35	38	40	N/A	N/A
		BAYHTRR315*	11.24		1	46	50	47	50	51	60	N/A	N/A
		BAYHTRN325*	18.72		2	72	80	73	80	77	80	N/A	N/A
		BAYHTRN335*	26.2		2	98	100	99	100	103	110	N/A	N/A
7.5	TWE09043A/B	BAYHTRN305*	5.00	230/3/60	1	22	25	23	25	27	30	N/A	N/A
		BAYHTRR310*	9.96		1	37	40	38	40	42	45	N/A	N/A
		BAYHTRR315*	14.96		1	52	60	53	60	57	60	N/A	N/A
		BAYHTRN325*	24.92		2	82	90	83	90	87	90	N/A	N/A
		BAYHTRN335*	34.88		2	112	125	113	125	117	125	N/A	N/A
7.5	TWE09044A/B	BAYHTRN405*	5.00	460/3/60	1	11	15	11	15	13	15	N/A	N/A
		BAYHTRR410*	9.96		1	18	20	19	20	21	25	N/A	N/A
		BAYHTRR415*	14.96		1	26	30	26	30	28	30	N/A	N/A
		BAYHTRN425*	24.92		2	41	45	41	45	43	45	N/A	N/A
		BAYHTRN435*	34.88		2	56	60	56	60	58	60	N/A	N/A
7.5	TWE09044WA/B	BAYHTRNW05*	5.00	575/3/60	1	8	15	9	15	10	15	N/A	N/A
		BAYHTRRW10*	9.96		1	14	15	15	15	16	20	N/A	N/A
		BAYHTRRW15*	14.96		1	20	25	21	25	22	25	N/A	N/A
		BAYHTRNW25*	24.92		2	32	35	33	35	34	35	N/A	N/A
		BAYHTRNW35*	34.88		2	44	45	45	45	46	50	N/A	N/A
10	TWE12041A/B	BAYHTRN106*	4.33	208/1/60	1	37	40	N/A	N/A	N/A	N/A	N/A	N/A
		BAYHTRR112*	8.65		1	63	70	N/A	N/A	N/A	N/A	N/A	N/A
		BAYHTRS117*	12.98		1	89	90	N/A	N/A	N/A	N/A	N/A	N/A
		BAYHTRR123*	17.31		2	115	125	N/A	N/A	N/A	N/A	N/A	N/A
		BAYHTRN129*	21.63		2	141	150	N/A	N/A	N/A	N/A	N/A	N/A
10	TWE12041A/B	BAYHTRN106*	5.76	230/1/60	1	41	45	N/A	N/A	N/A	N/A	N/A	N/A
		BAYHTRR112*	11.52		1	71	80	N/A	N/A	N/A	N/A	N/A	N/A
		BAYHTRS117*	17.28		1	101	110	N/A	N/A	N/A	N/A	N/A	N/A
		BAYHTRR123*	23.04		2	131	150	N/A	N/A	N/A	N/A	N/A	N/A
		BAYHTRN129*	28.8		2	161	175	N/A	N/A	N/A	N/A	N/A	N/A

**Table 63. Unit wiring with electric heat (single point connection) – 5-20 ton constant volume air handlers – 60 Hz (continued)**

Tons	Used With	Heater Model Number	Heater kW Rating	Unit Power Supply	Control Stages	Standard Evap Motor		High Static Evap Motor		Ultra High Static Evap Motor		Low Static Evap Motor	
						MCA	MOP	MCA	MOP	MCA	MOP	MCA	MOP
10	TWE12043A/B	BAYHTRN305*	3.76	208/3/60	1	21	25	25	30	N/A	N/A	N/A	N/A
		BAYHTRR310*	7.48		1	34	35	38	40	N/A	N/A	N/A	N/A
		BAYHTRR315*	11.24		1	47	50	51	60	N/A	N/A	N/A	N/A
		BAYHTRN325*	18.72		2	73	80	77	80	N/A	N/A	N/A	N/A
		BAYHTRN335*	26.2		2	99	100	103	110	N/A	N/A	N/A	N/A
10	TWE12043A/B	BAYHTRN305*	5.00	230/3/60	1	23	25	27	30	N/A	N/A	N/A	N/A
		BAYHTRR310*	9.96		1	38	40	42	45	N/A	N/A	N/A	N/A
		BAYHTRR315*	14.96		1	53	60	57	60	N/A	N/A	N/A	N/A
		BAYHTRN325*	24.92		2	83	90	87	90	N/A	N/A	N/A	N/A
		BAYHTRN335*	34.88		2	113	125	117	125	N/A	N/A	N/A	N/A
10	TWE12043A/B	BAYHTRN405*	5.00	460/3/60	1	11	15	13	15	N/A	N/A	N/A	N/A
		BAYHTRR410*	9.96		1	19	20	21	25	N/A	N/A	N/A	N/A
		BAYHTRR415*	14.96		1	26	30	28	30	N/A	N/A	N/A	N/A
		BAYHTRN425*	24.92		2	41	45	43	45	N/A	N/A	N/A	N/A
		BAYHTRN435*	34.88		2	56	60	58	60	N/A	N/A	N/A	N/A
10	TWE12044WA/B	BAYHTRNW05*	5.00	575/3/60	1	9	15	10	15	N/A	N/A	N/A	N/A
		BAYHTRRW10*	9.96		1	15	15	16	20	N/A	N/A	N/A	N/A
		BAYHTRRW15*	14.96		1	21	25	22	25	N/A	N/A	N/A	N/A
		BAYHTRNW25*	24.92		2	33	35	34	35	N/A	N/A	N/A	N/A
		BAYHTRNW35*	34.88		2	45	45	46	50	N/A	N/A	N/A	N/A
15	TWE18043B	BAYHTRP310*	7.51	208/3/60	1	38	40	44	50	N/A	N/A	N/A	N/A
		BAYHTRP320*	14.96		1	64	70	69	70	N/A	N/A	N/A	N/A
		BAYHTRP330*	22.47		2	90	90	96	100	N/A	N/A	N/A	N/A
		BAYHTRP350*	37.44		2	142	150	148	150	N/A	N/A	N/A	N/A
15	TWE18043B	BAYHTRP310*	10	230/3/60	1	42	45	48	50	N/A	N/A	N/A	N/A
		BAYHTRP320*	19.92		1	72	80	77	80	N/A	N/A	N/A	N/A
		BAYHTRP330*	29.92		2	102	110	108	110	N/A	N/A	N/A	N/A
		BAYHTRP350*	49.84		2	162	175	168	175	N/A	N/A	N/A	N/A
15	TWE18043B	BAYHTRP410*	10	460/3/60	1	21	25	23	25	N/A	N/A	N/A	N/A
		BAYHTRP420*	19.92		1	36	40	38	40	N/A	N/A	N/A	N/A
		BAYHTRP430*	29.92		2	51	60	53	60	N/A	N/A	N/A	N/A
		BAYHTRP450*	49.84		2	81	90	83	90	N/A	N/A	N/A	N/A
15	TWE1804WB	BAYHTRPW10*	10	575/3/60	1	16	20	19	20	N/A	N/A	N/A	N/A
		BAYHTRPW20*	19.92		1	28	30	31	35	N/A	N/A	N/A	N/A
		BAYHTRPW30*	29.92		2	40	45	43	45	N/A	N/A	N/A	N/A
		BAYHTRPW50*	49.84		2	64	70	67	70	N/A	N/A	N/A	N/A
20	TWE24043B	BAYHTRP310*	7.51	208/3/60	1	44	50	51	60	N/A	N/A	38	40
		BAYHTRP320*	14.96		1	69	70	76	80	N/A	N/A	64	70
		BAYHTRP330*	22.47		2	95	100	103	110	N/A	N/A	90	90
		BAYHTRP350*	37.44		2	148	150	155	175	N/A	N/A	142	150
20	TWE24043B	BAYHTRP310*	10	230/3/60	1	48	50	55	60	N/A	N/A	42	45
		BAYHTRP320*	19.92		1	77	80	84	90	N/A	N/A	72	80
		BAYHTRP330*	29.92		2	108	110	115	125	N/A	N/A	102	110
		BAYHTRP350*	49.84		2	168	175	175	175	N/A	N/A	162	175



**Electrical Data**

**Table 63. Unit wiring with electric heat (single point connection) – 5-20 ton constant volume air handlers – 60 Hz (continued)**

Tons	Used With	Heater Model Number	Heater kW Rating	Unit Power Supply	Control Stages	Standard Evap Motor		High Static Evap Motor		Ultra High Static Evap Motor		Low Static Evap Motor	
						MCA	MOP	MCA	MOP	MCA	MOP	MCA	MOP
20	TWE24044B	BAYHTRP410*	10	460/3/60	1	23	25	26	30	N/A	N/A	21	25
		BAYHTRP420*	19.92		1	38	40	41	45	N/A	N/A	36	40
		BAYHTRP430*	29.92		2	53	60	56	60	N/A	N/A	51	60
		BAYHTRP450*	49.84		2	83	90	86	90	N/A	N/A	81	90
20	TWE2404WB	BAYHTRPW10*	10	575/3/60	1	19	20	21	25	N/A	N/A	N/A	N/A
		BAYHTRPW20*	19.92		1	31	35	33	35	N/A	N/A	N/A	N/A
		BAYHTRPW30*	29.92		2	43	45	45	45	N/A	N/A	N/A	N/A
		BAYHTRPW50*	49.84		2	67	70	69	70	N/A	N/A	N/A	N/A

**Table 64. Unit wiring with electric heat (single point connection) – 6-20 ton SZVAV and 2-Speed VFD air handlers – 60 Hz**

Tons	Used With	Heater Model Number	Heater KW Rating	Unit Power Supply	Control Stages	MCA	Maximum Fuse or Circuit Breaker Size
6	TWE07243B****A0, B0	BAYHTRN305*	3.76	208/3/60	1	21	25
		BAYHTRR310*	7.48		1	34	35
		BAYHTRR315*	11.24		1	47	50
		BAYHTRN325*	18.72		2	73	80
6	TWE07243B****A0, B0	BAYHTRN305*	5.00	230/3/60	1	23	25
		BAYHTRR310*	9.96		1	38	40
		BAYHTRR315*	14.96		1	53	60
		BAYHTRN325*	24.92		2	83	90
6	TWE07243B****A4, B4	BAYHTRN305*	3.76	230/3/60	1	25	30
		BAYHTRR310*	7.48		1	38	40
		BAYHTRR315*	11.24		1	51	60
6	TWE07243B****A4, B4	BAYHTRN305*	5.00	230/3/60	1	27	30
		BAYHTRR310*	9.96		1	42	45
		BAYHTRR315*	14.96		1	57	60
6	TWE07244B****A0, B0	BAYHTRN405*	5.00	460/3/60	1	11	15
		BAYHTRR410*	9.96		1	19	20
		BAYHTRR415*	14.96		1	26	30
		BAYHTRN425*	24.92		2	41	45
6	TWE07244B****A4, B4	BAYHTRN405*	5.00	460/3/60	1	13	15
		BAYHTRR410*	9.96		1	21	25
		BAYHTRR415*	14.96		1	28	30
		BAYHTRN425*	24.92		2	43	45
6	TWE0724WB****A0, B0	BAYHTRNW05*	5.00	575/3/60	1	9	15
		BAYHTRRW10*	9.96		1	15	15
		BAYHTRRW15*	14.96		1	21	25
		BAYHTRNW25*	24.92		2	33	35
6	TWE0724WB****A4, B4	BAYHTRNW05*	5.00	575/3/60	1	11	15
		BAYHTRRW10*	9.96		1	17	20
		BAYHTRRW15*	14.96		1	23	25
		BAYHTRNW25*	24.92		2	35	35



**Table 64. Unit wiring with electric heat (single point connection) – 6-20 ton SZVAV and 2-Speed VFD air handlers – 60 Hz (continued)**

Tons	Used With	Heater Model Number	Heater KW Rating	Unit Power Supply	Control Stages	MCA	Maximum Fuse or Circuit Breaker Size
7.5	TWE09043B****A0, B0	BAYHTRN305*	3.76	230/3/60	1	21	25
		BAYHTRR310*	7.48		1	34	35
		BAYHTRR315*	11.24		1	47	50
		BAYHTRN325*	18.72		2	73	80
		BAYHTRN335*	26.20		2	99	100
7.5	TWE09043B****A0, B0	BAYHTRN305*	5.00	230/3/60	1	23	25
		BAYHTRR310*	9.96		1	38	40
		BAYHTRR315*	14.96		1	53	60
		BAYHTRN325*	24.92		2	83	90
		BAYHTRN335*	34.88		2	113	125
7.5	TWE09043B****A4, B4	BAYHTRN305*	3.76	230/3/60	1	25	30
		BAYHTRR310*	7.48		1	38	40
		BAYHTRR315*	11.24		1	51	60
		BAYHTRN325*	18.72		2	77	80
		BAYHTRN335*	26.20		2	103	110
7.5	TWE09043B****A4, B4	BAYHTRN305*	5.00	230/3/60	1	27	30
		BAYHTRR310*	9.96		1	42	45
		BAYHTRR315*	14.96		1	57	60
		BAYHTRN325*	24.92		2	87	90
		BAYHTRN335*	34.88		2	117	125
7.5	TWE09044B****A0, B0	BAYHTRN405*	5.00	460/3/60	1	11	15
		BAYHTRR410*	9.96		1	19	20
		BAYHTRR415*	14.96		1	26	30
		BAYHTRN425*	24.92		2	41	45
		BAYHTRN435*	34.88		2	56	60
7.5	TWE09044B****A4, B4	BAYHTRN405*	5.00	460/3/60	1	13	15
		BAYHTRR410*	9.96		1	21	25
		BAYHTRR415*	14.96		1	28	30
		BAYHTRN425*	24.92		2	43	45
		BAYHTRN435*	34.88		2	58	60
7.5	TWE0904WB****A0, B0	BAYHTRNW05*	5.00	575/3/60	1	9	15
		BAYHTRRW10*	9.96		1	15	15
		BAYHTRRW15*	14.96		1	21	25
		BAYHTRNW25*	24.92		2	33	35
		BAYHTRNW35*	34.88		2	45	45
7.5	TWE0904WB****A4, B4	BAYHTRNW05*	5.00	575/3/60	1	11	15
		BAYHTRRW10*	9.96		1	17	20
		BAYHTRRW15*	14.96		1	23	25
		BAYHTRNW25*	24.92		2	35	35
		BAYHTRNW35*	34.88		2	47	50
10	TWE12043A****A0, B0 TWE12043B****A0, B0	BAYHTRN305*	3.76	208/3/60	1	21	25
		BAYHTRR310*	7.48		1	34	35
		BAYHTRR315*	11.24		1	47	50
		BAYHTRN325*	18.72		2	73	80
		BAYHTRN335*	26.20		2	99	100



## Electrical Data

**Table 64. Unit wiring with electric heat (single point connection) – 6-20 ton SZVAV and 2-Speed VFD air handlers – 60 Hz (continued)**

Tons	Used With	Heater Model Number	Heater KW Rating	Unit Power Supply	Control Stages	MCA	Maximum Fuse or Circuit Breaker Size
10	TWE12043A****A0, B0 TWE12043B****A0, B0	BAYHTRN305*	5.00	230/3/60	1	23	25
		BAYHTRR310*	9.96		1	38	40
		BAYHTRR315*	14.96		1	53	60
		BAYHTRN325*	24.92		2	83	90
		BAYHTRN335*	34.88		2	113	125
10	TWE12043A****A4, B4 TWE12043B****A4, B4	BAYHTRN305*	3.76	208/3/60	1	25	30
		BAYHTRR310*	7.48		1	38	40
		BAYHTRR315*	11.24		1	51	60
		BAYHTRN325*	18.72		2	77	80
		BAYHTRN335*	26.20		2	103	110
10	TWE12043A****A4, B4 TWE12043B****A4, B4	BAYHTRN305*	5.00	230/3/60	1	27	30
		BAYHTRR310*	9.96		1	42	45
		BAYHTRR315*	14.96		1	57	60
		BAYHTRN325*	24.92		2	87	90
		BAYHTRN335*	34.88		2	117	125
10	TWE12044A****A0, B0 TWE12044B****A0, B0	BAYHTRN405*	5.00	460/3/60	1	11	15
		BAYHTRR410*	9.96		1	19	20
		BAYHTRR415*	14.96		1	26	30
		BAYHTRN425*	24.92		2	41	45
		BAYHTRN435*	34.88		2	56	60
10	TWE12044A****A4, B4 TWE12044B****A4, B4	BAYHTRN405*	5.00	460/3/60	1	13	15
		BAYHTRR410*	9.96		1	21	25
		BAYHTRR415*	14.96		1	28	30
		BAYHTRN425*	24.92		2	43	45
		BAYHTRN435*	34.88		2	58	60
10	TWE1204WA****A0, B0 TWE1204WB****A0, B0	BAYHTRNW05*	5.00	575/3/60	1	9	15
		BAYHTRRW10*	9.96		1	15	15
		BAYHTRRW15*	14.96		1	21	25
		BAYHTRNW25*	24.92		2	33	35
		BAYHTRNW35*	34.88		2	45	50
10	TWE1204WA****A4, B4 TWE1204WB****A4, B4	BAYHTRNW05*	5.00	575/3/60	1	11	15
		BAYHTRRW10*	9.96		1	17	20
		BAYHTRRW15*	14.96		1	23	25
		BAYHTRNW25*	24.92		2	35	35
		BAYHTRNW35*	34.88		2	47	50
15	TWE18043B****A0, B0	BAYHTRP310*	7.51	208/3/60	1	38	40
		BAYHTRP320*	14.96		1	64	70
		BAYHTRP330*	22.47		2	90	90
		BAYHTRP350*	37.44		2	142	150
15	TWE18043B****A0, B0	BAYHTRP310*	10.00	230/3/60	1	42	45
		BAYHTRP320*	19.92		1	72	80
		BAYHTRP330*	29.92		2	102	110
		BAYHTRP350*	49.84		2	162	175
15	TWE18043B****A4, B4	BAYHTRP310*	7.51	208/3/60	1	43	50
		BAYHTRP320*	14.96		1	69	70
		BAYHTRP330*	22.47		2	95	100
		BAYHTRP350*	37.44		2	147	150

**Table 64. Unit wiring with electric heat (single point connection) – 6-20 ton SZVAV and 2-Speed VFD air handlers – 60 Hz (continued)**

Tons	Used With	Heater Model Number	Heater KW Rating	Unit Power Supply	Control Stages	MCA	Maximum Fuse or Circuit Breaker Size
15	TWE18043B****A4, B4	BAYHTRP310*	10.00	230/3/60	1	47	50
		BAYHTRP320*	19.92		1	77	80
		BAYHTRP330*	29.92		2	107	110
		BAYHTRP350*	49.84		2	167	175
15	TWE18044B****A0, B0	BAYHTRP410*	10.00	460/3/60	1	21	25
		BAYHTRP420*	19.92		1	36	40
		BAYHTRP430*	29.92		2	51	60
		BAYHTRP450*	49.84		2	81	90
15	TWE18044B****A4, B4	BAYHTRP410*	10.00	460/3/60	1	23	25
		BAYHTRP420*	19.92		1	38	40
		BAYHTRP430*	29.92		2	53	60
		BAYHTRP450*	49.84		2	83	90
15	TWE1804WB****A0, B0	BAYHTRPW10*	10.00	575/3/60	1	17	20
		BAYHTRPW20*	19.92		1	29	30
		BAYHTRPW30*	29.92		2	41	45
		BAYHTRPW50*	49.84		2	65	70
15	TWE1804WB****A4, B4	BAYHTRPW10*	10.00	575/3/60	1	18	20
		BAYHTRPW20*	19.92		1	30	35
		BAYHTRPW30*	29.92		2	42	45
		BAYHTRPW50*	49.84		2	66	70
20	TWE24043B****A0, B0	BAYHTRP310*	7.51	208/3/60	1	43	50
		BAYHTRP320*	14.96		1	69	70
		BAYHTRP330*	22.47		2	95	100
		BAYHTRP350*	37.44		2	147	150
20	TWE24043B****A0, B0	BAYHTRP310*	10.00	230/3/60	1	47	50
		BAYHTRP320*	19.92		1	77	80
		BAYHTRP330*	29.92		2	107	110
		BAYHTRP350*	49.84		2	167	175
20	TWE24043B****A4, B4	BAYHTRP310*	7.51	208/3/60	1	51	60
		BAYHTRP320*	14.96		1	77	80
		BAYHTRP330*	22.47		2	103	110
		BAYHTRP350*	37.44		2	155	175
20	TWE24043B****A4, B4	BAYHTRP310*	10.00	230/3/60	1	55	60
		BAYHTRP320*	19.92		1	85	90
		BAYHTRP330*	29.92		2	115	125
		BAYHTRP350*	49.84		2	175	200
20	TWE24044B****A0, B0	BAYHTRP410*	10.00	460/3/60	1	23	25
		BAYHTRP420*	19.92		1	38	40
		BAYHTRP430*	29.92		2	53	60
		BAYHTRP450*	49.84		2	83	90
20	TWE24044B****A4, B4	BAYHTRP410*	10.00	460/3/60	1	26	30
		BAYHTRP420*	19.92		1	41	45
		BAYHTRP430*	29.92		2	56	60
		BAYHTRP450*	49.84		2	86	90



**Electrical Data**

**Table 64. Unit wiring with electric heat (single point connection) – 6-20 ton SZVAV and 2-Speed VFD air handlers – 60 Hz (continued)**

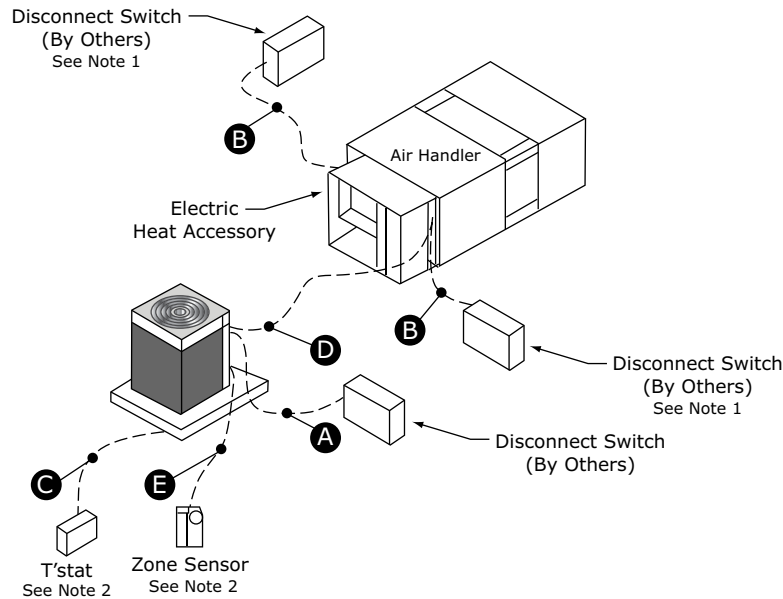
Tons	Used With	Heater Model Number	Heater KW Rating	Unit Power Supply	Control Stages	MCA	Maximum Fuse or Circuit Breaker Size
20	TWE2404WB****A0, B0	BAYHTRPW10*	10.00	575/3/60	1	18	20
		BAYHTRPW20*	19.92		1	30	35
		BAYHTRPW30*	29.92		2	42	45
		BAYHTRPW50*	49.84		2	66	70
20	TWE2404WB****A4, B4	BAYHTRPW10*	10.00	575/3/60	1	21	25
		BAYHTRPW20*	19.92		1	33	35
		BAYHTRPW30*	29.92		2	45	45
		BAYHTRPW50*	49.84		2	69	70

# 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 15. Symbio™ jobsite connections**



### Power Wires

- A. 3 wires, line voltage for 3 phase, (2 wires for single 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 twisted pairs. Refer to unit schematics for identification of twisted pairs.

### 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.

**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 65. Recommended thermostat wire size**

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

**Table 66. Zone sensor module wiring**

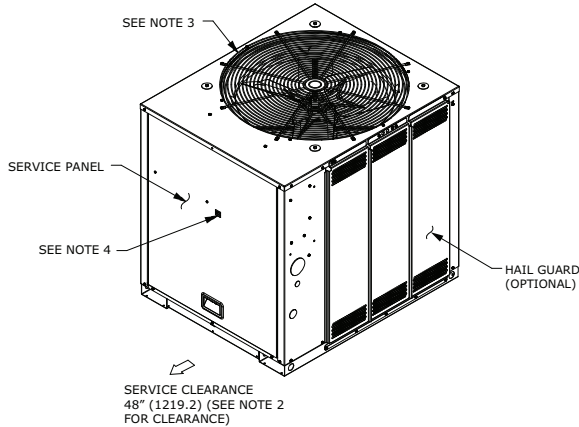
<b>Distance from Unit to Control</b>	<b>Recommended Wire Size</b>
0-150 feet (0-45.7 m)	22 gauge (0.33 mm <sup>2</sup> )
151-240 feet (46-73.1 m)	20 gauge (0.50 mm <sup>2</sup> )
241-305 feet (73.5-117.3 m)	18 gauge (0.75 mm <sup>2</sup> )
386-610 feet (117.7-185.9 m)	16 gauge (1.31 mm <sup>2</sup> )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



# Dimensional Data

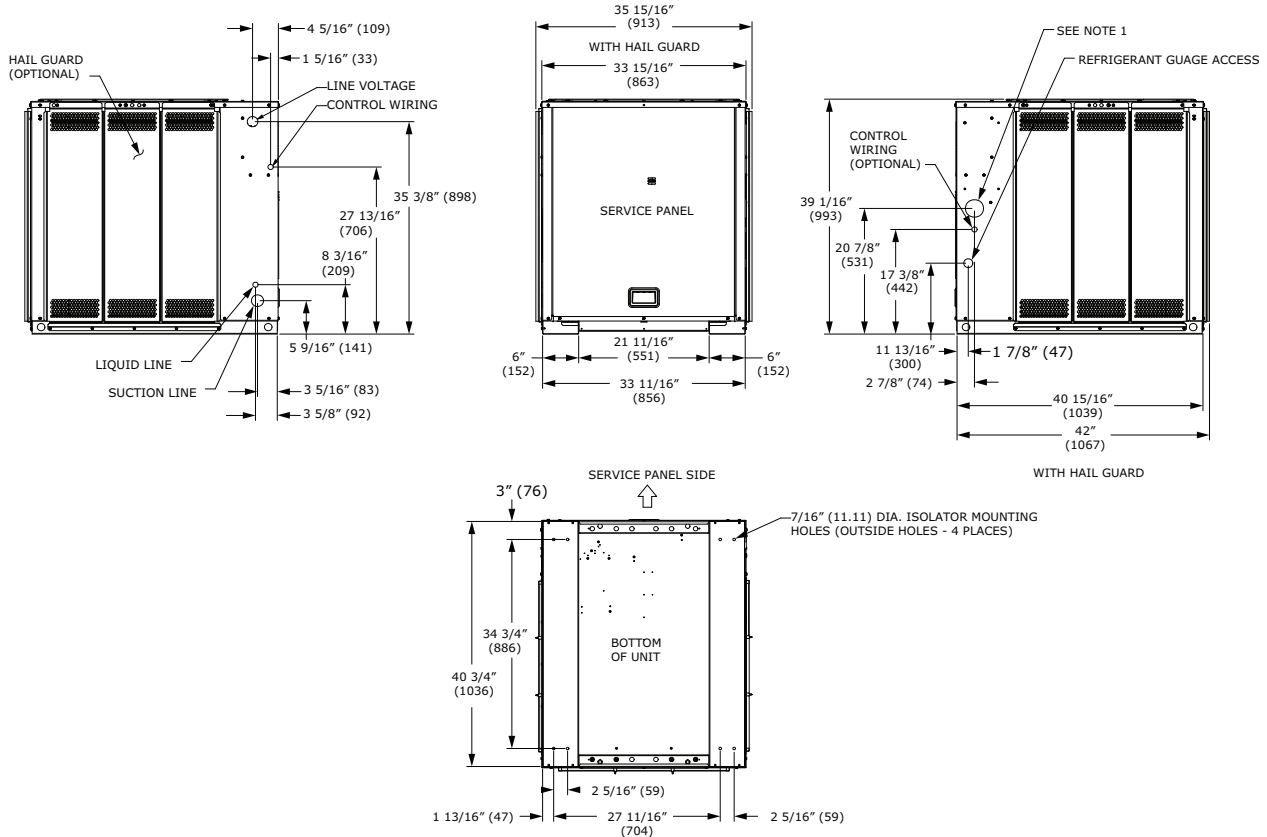
## Heat Pump

Figure 16. 6-7.5 ton heat pump, single compressor – in (mm)



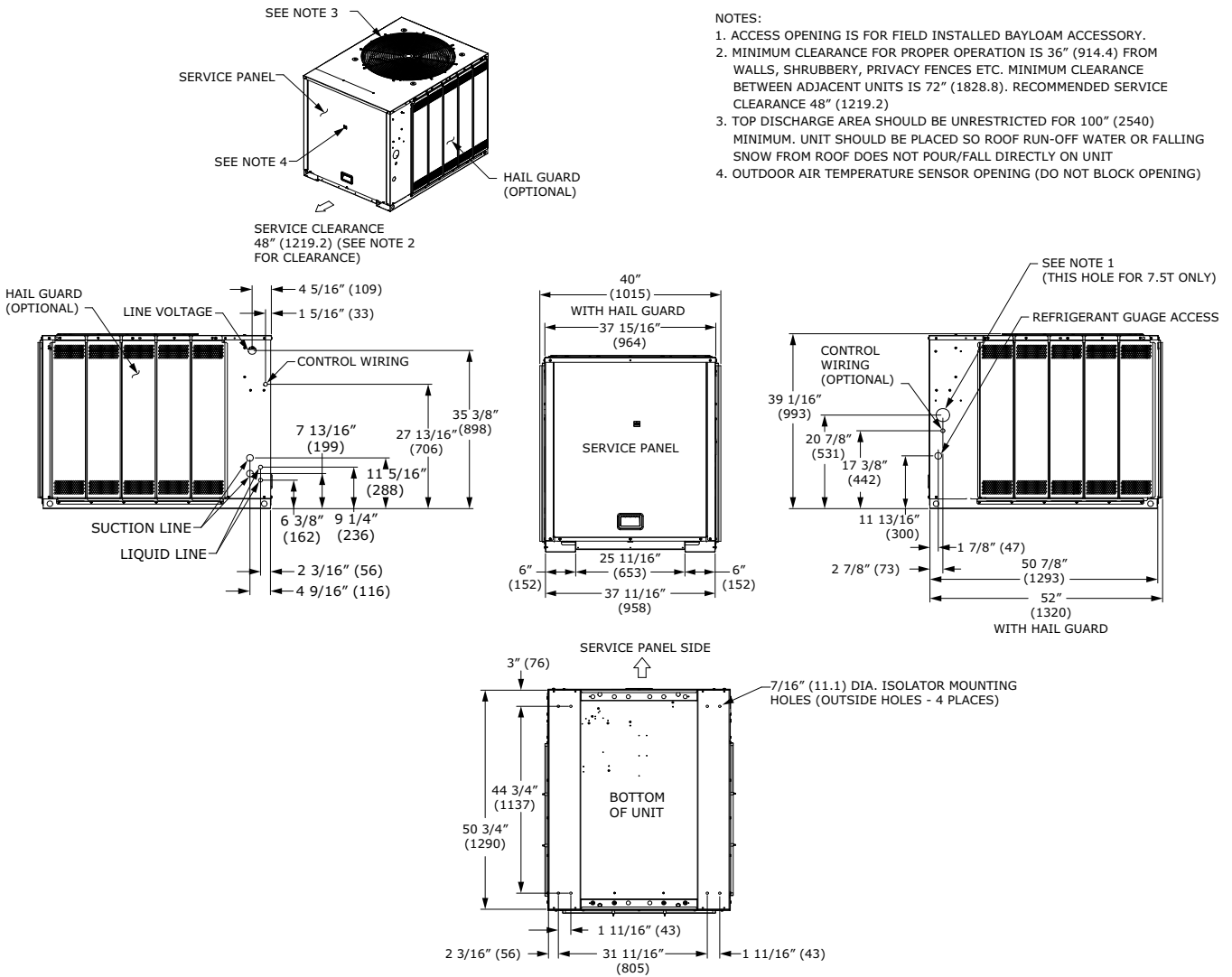
NOTES:

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)



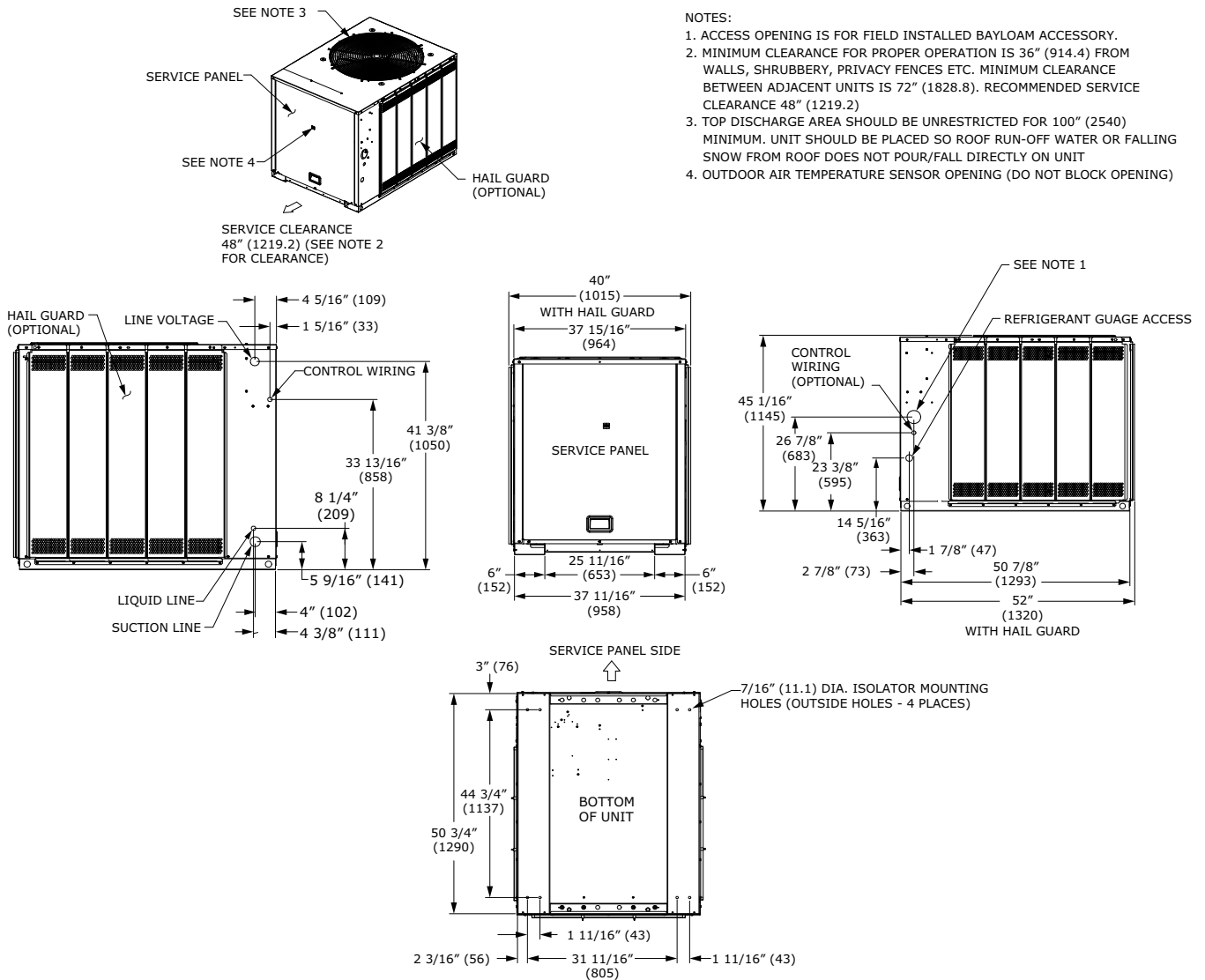
# Dimensional Data

**Figure 17. 6-7.5 ton heat pump, dual compressor – in (mm)**





**Figure 18. 10 ton heat pump, single compressor – in (mm)**



# Dimensional Data

**Figure 19. 10 ton heat pump, dual compressor – in (mm)**

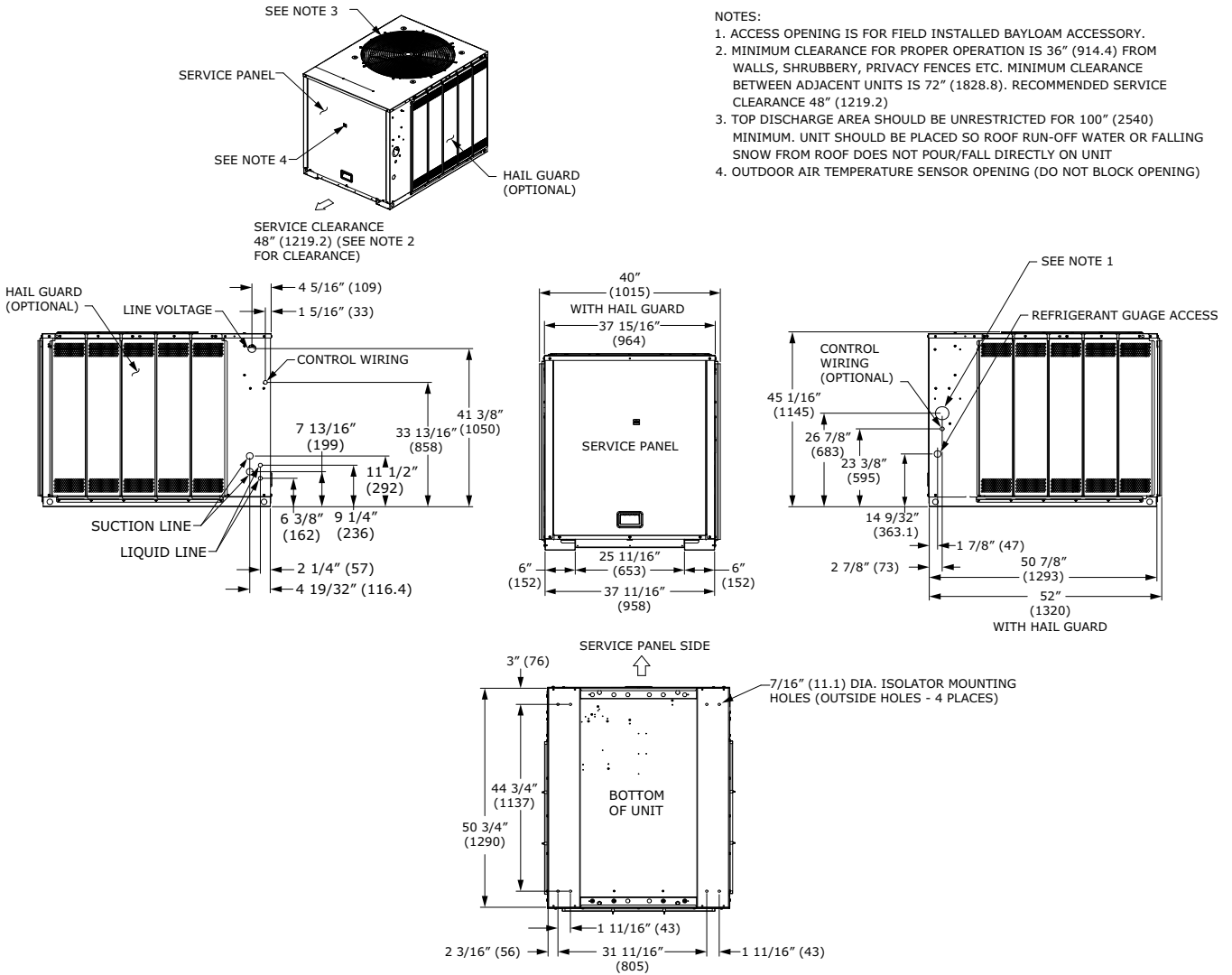
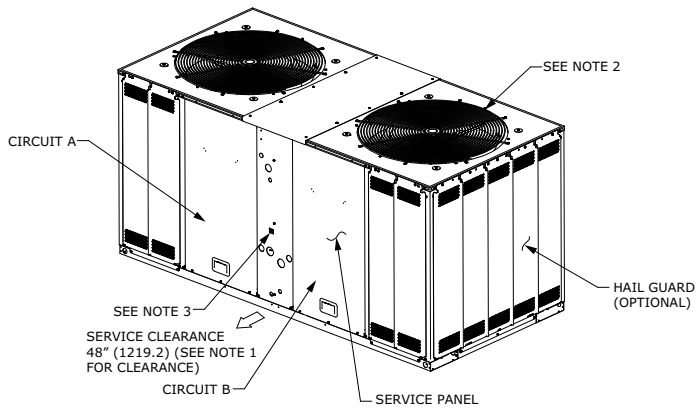
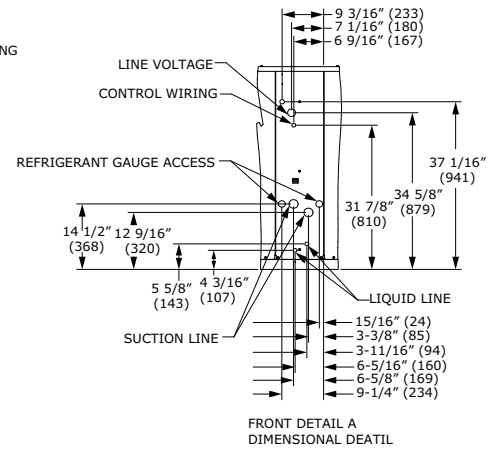
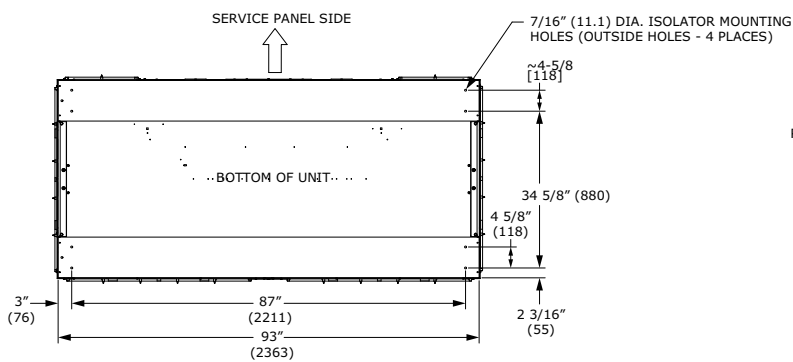
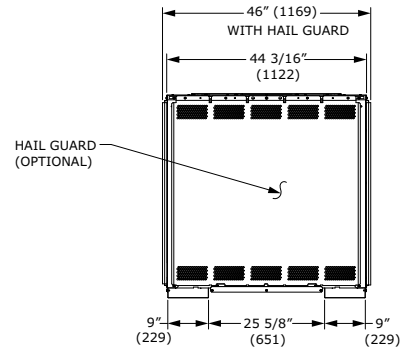
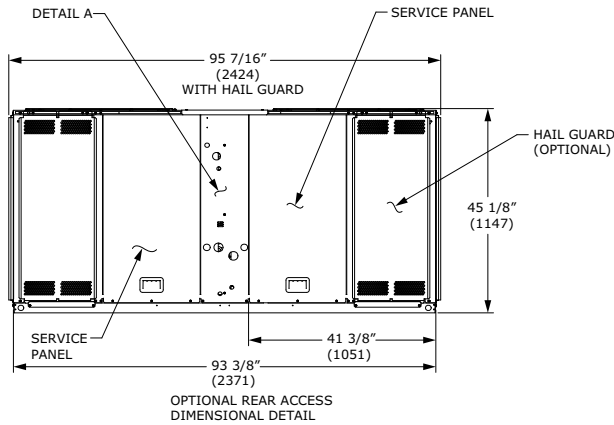


Figure 20. 15, 20 ton heat pump, dual compressor – in (mm)



NOTES:

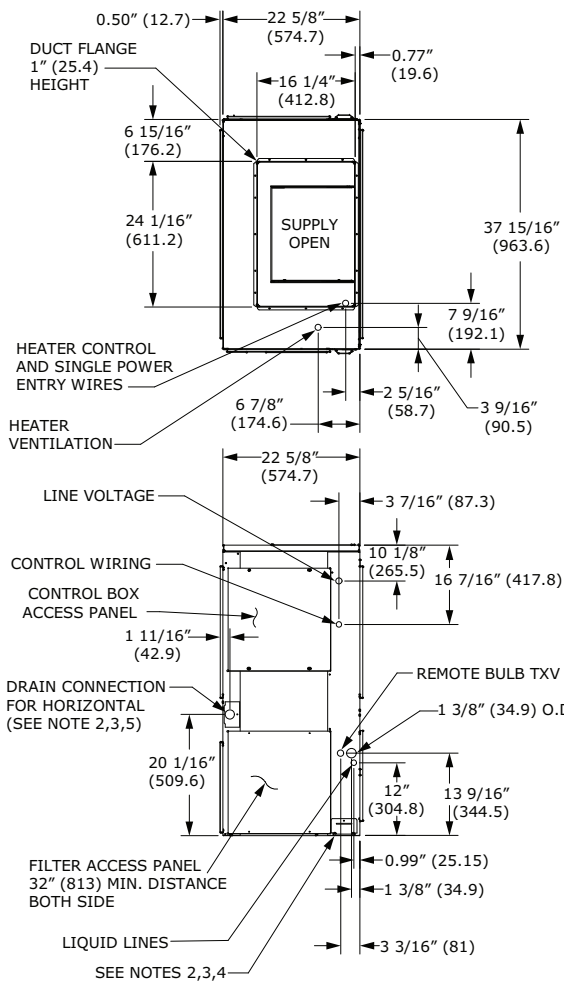
1. MINIMUM CLEARANCE FOR PROPER OPERATION IS 36" (914.4) FROM WALLS, SHRUBBERY, PRIVACY FENCES ETC. MINIMUM CLEARANCE BETWEEN ADJACENT UNITS IS 72" (1828.8). RECOMMENDED SERVICE CLEARANCE 48" (1219.2)
2. TOP DISCHARGE AREA SHOULD BE UNRESTRICTED FOR 100" (2540) MINIMUM. UNIT SHOULD BE PLACED SO ROOF 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)



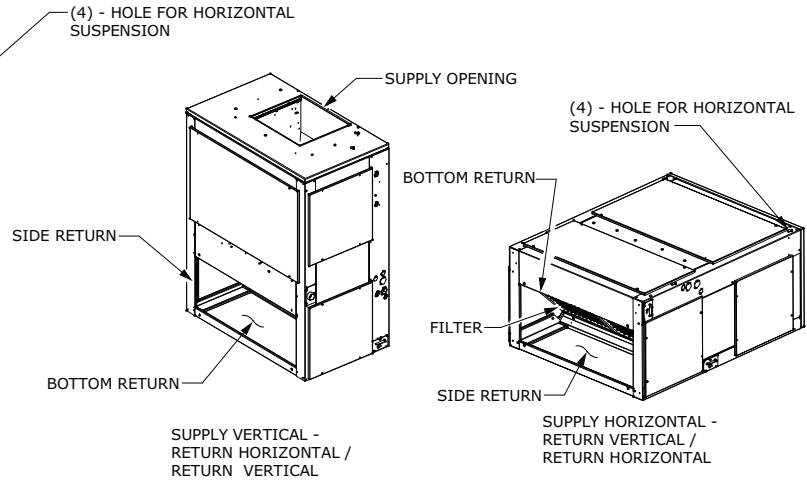
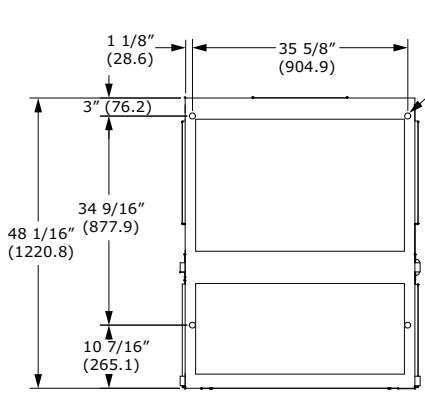
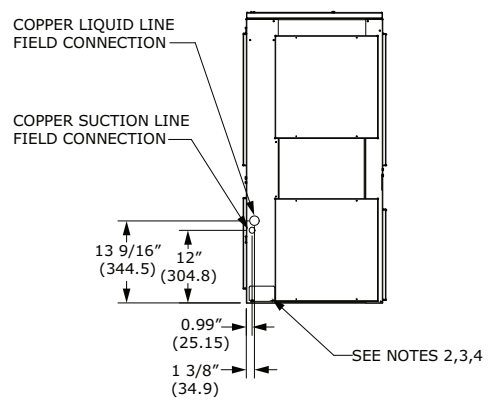
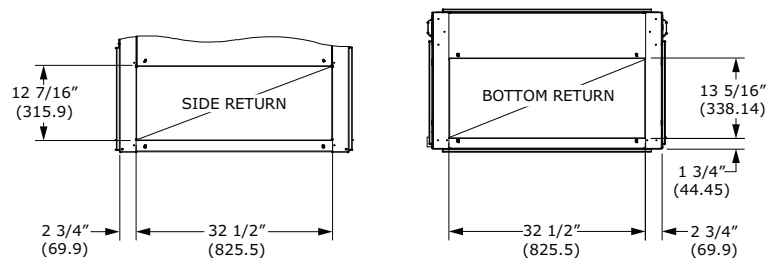
# Air Handler

**Figure 21. 5 ton air handler, single circuit – in (mm)**

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

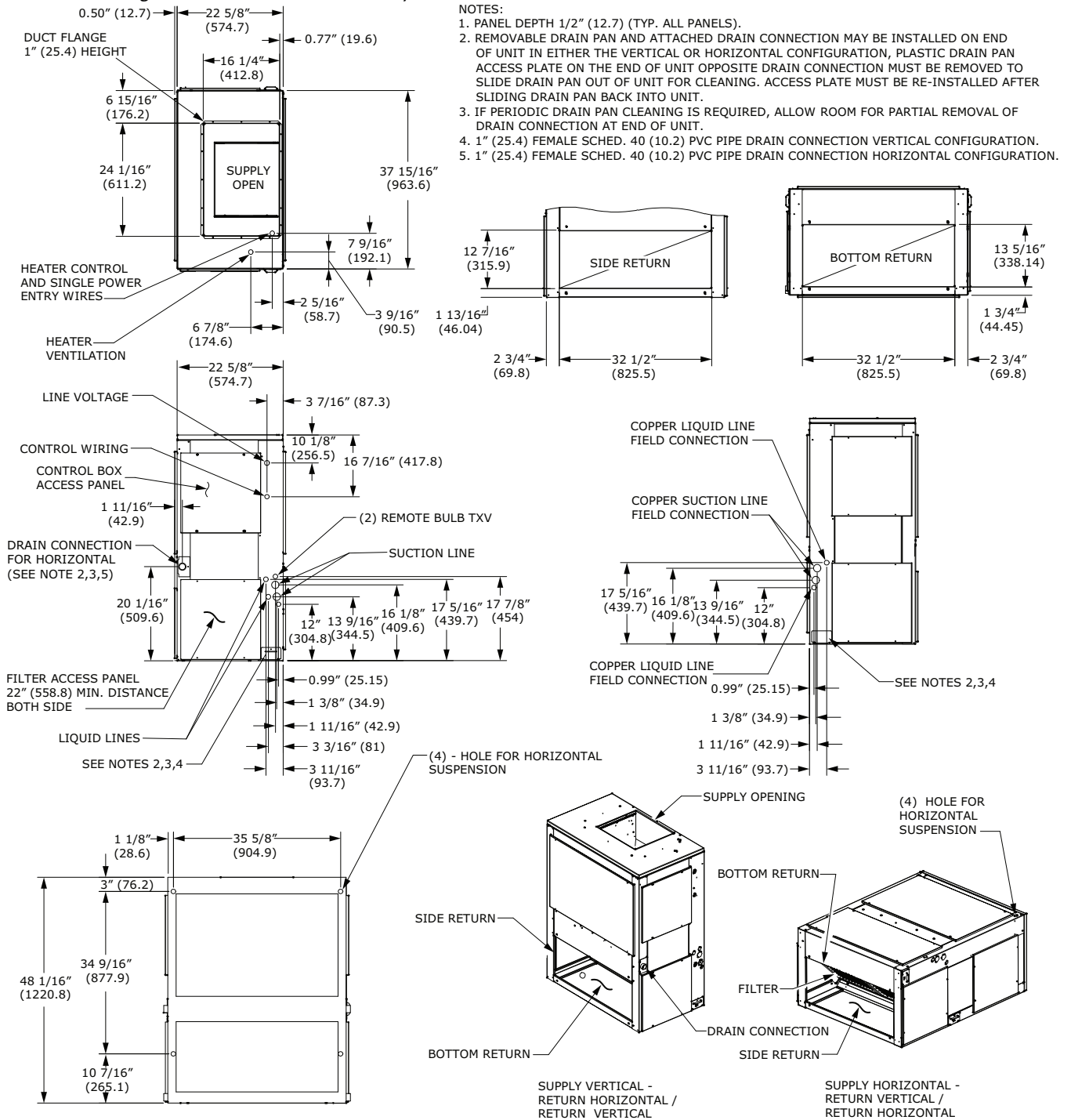


- NOTES:
1. PANEL DEPTH 1/2" (12.7) (TYP. ALL PANELS).
  2. REMOVABLE DRAIN PAN AND ATTACHED DRAIN CONNECTION MAY BE INSTALLED ON END OF UNIT IN EITHER THE VERTICAL OR HORIZONTAL CONFIGURATION, PLASTIC DRAIN PAN ACCESS PLATE ON THE END OF UNIT OPPOSITE DRAIN CONNECTION MUST BE REMOVED TO SLIDE DRAIN 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 22. 5 ton air handler, dual circuit – in (mm)**

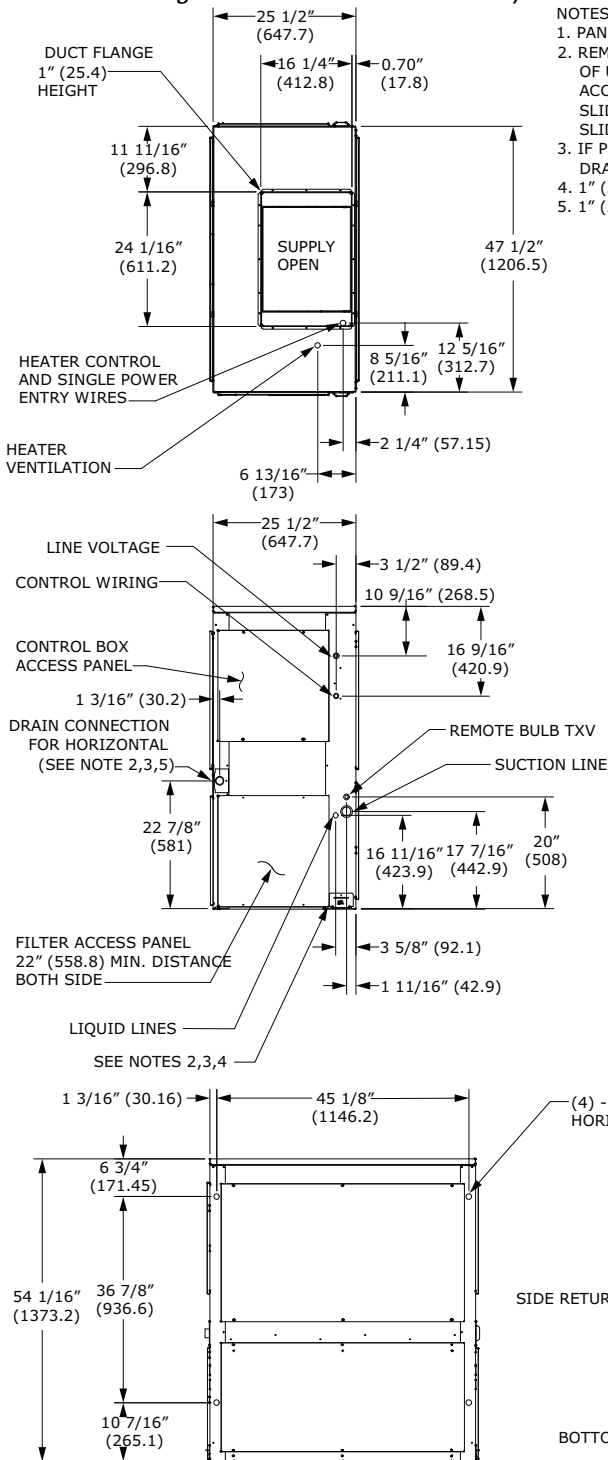
**Note: Duct flange is a field-installed accessory.**



# Dimensional Data

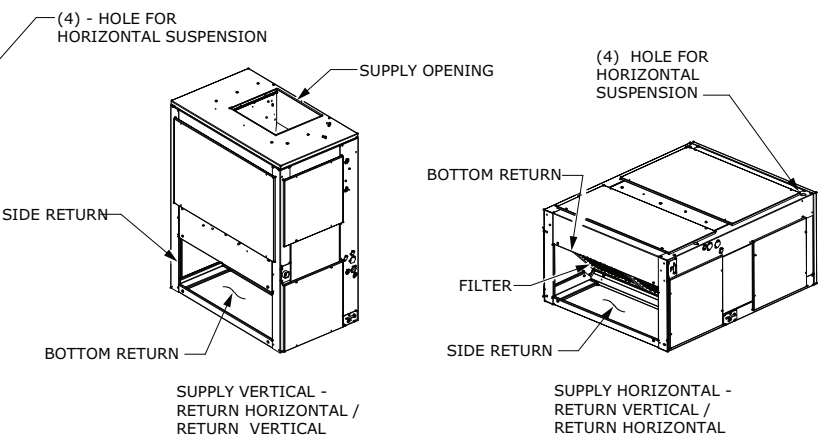
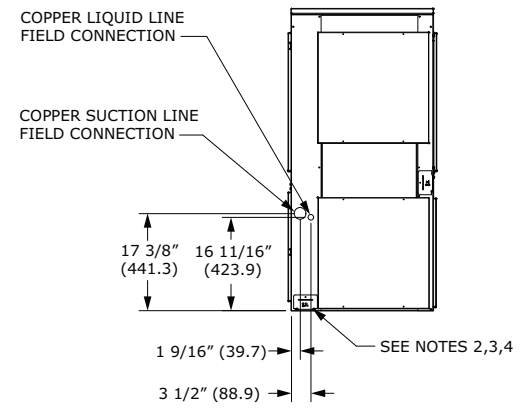
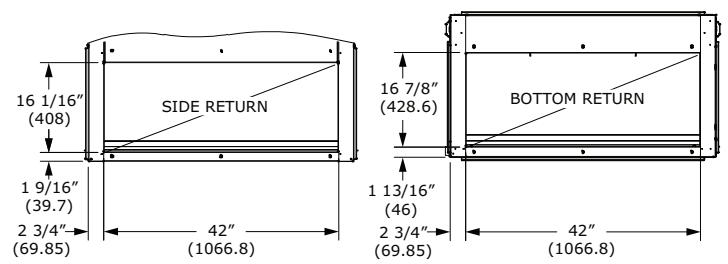
**Figure 23. 7.5 ton air handler, single circuit – in (mm)**

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



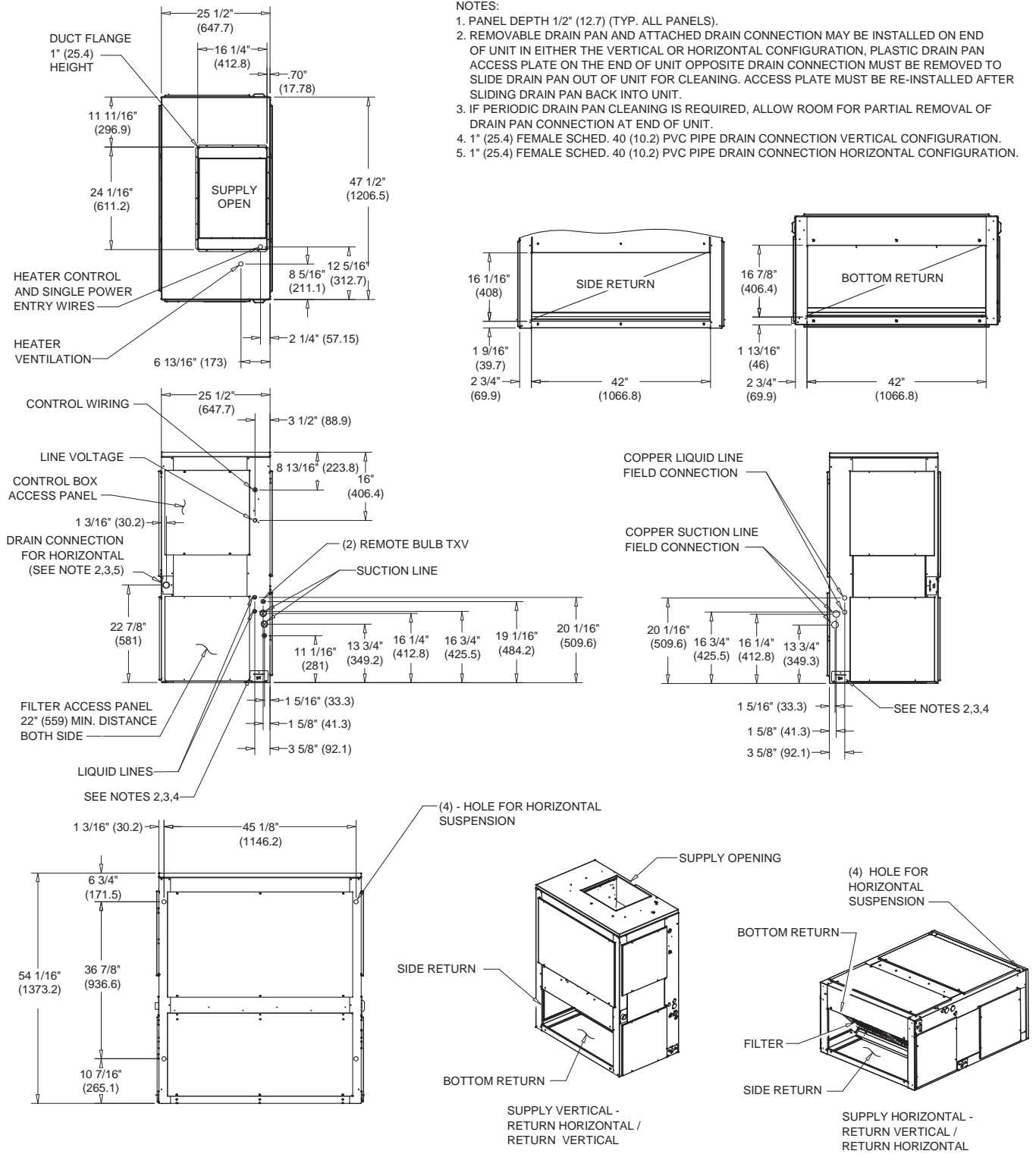
**NOTES:**

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 24. 6, 7.5 ton air handler, dual circuit – in (mm)**

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



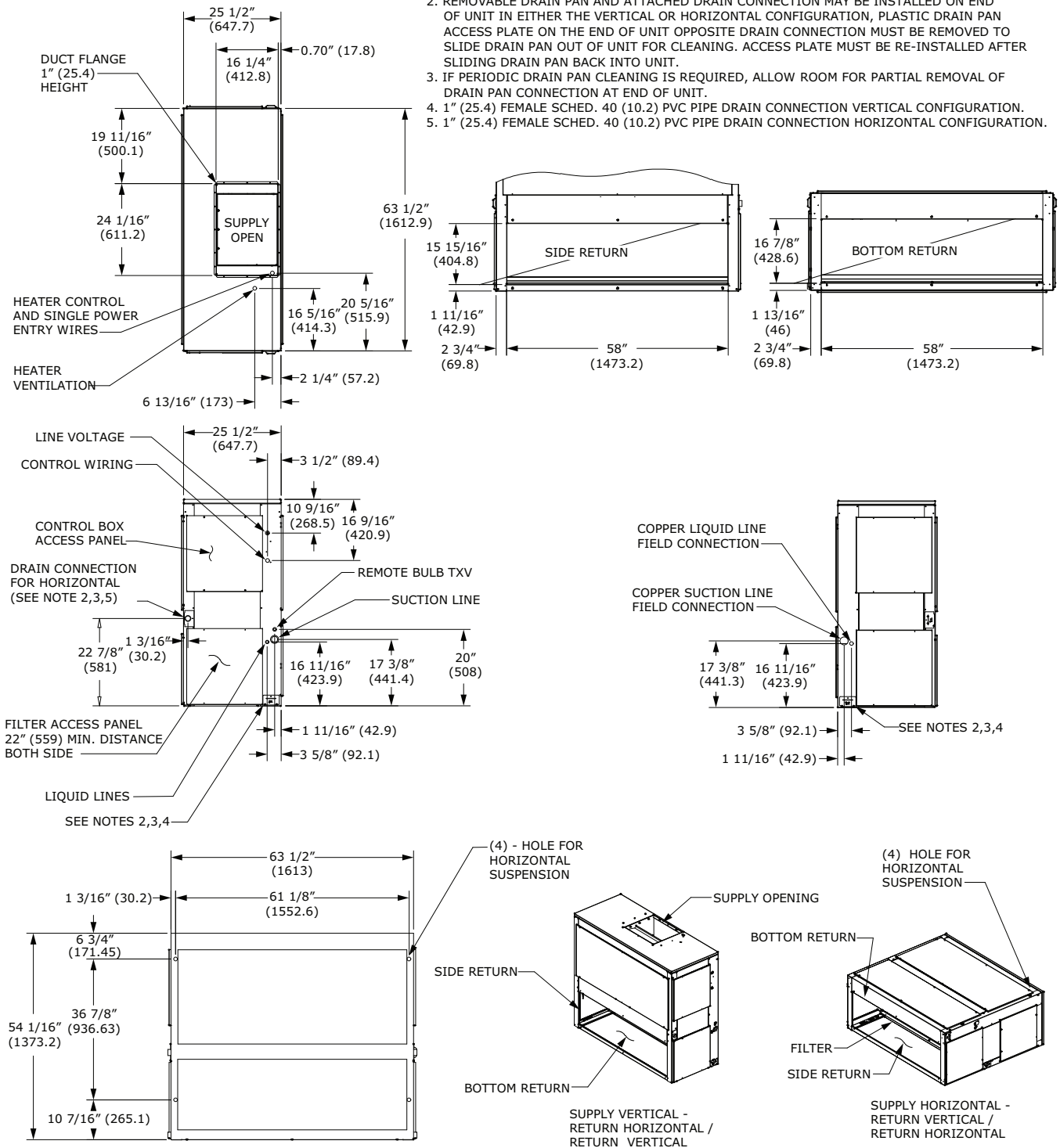
# Dimensional Data

**Figure 25. 10 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.



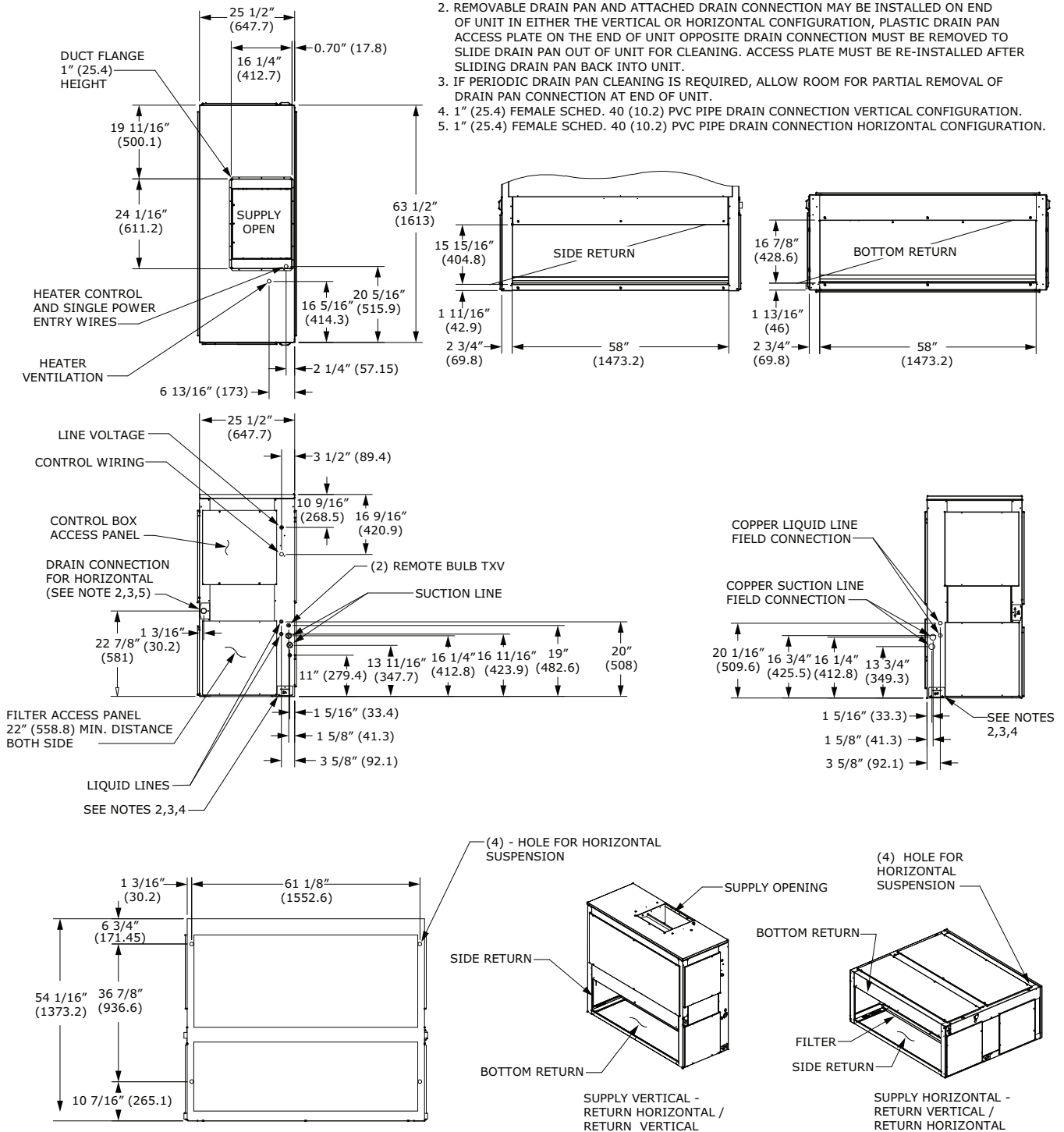


**Figure 26. 10 ton air handler, dual circuit – in (mm)**

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

**NOTES:**

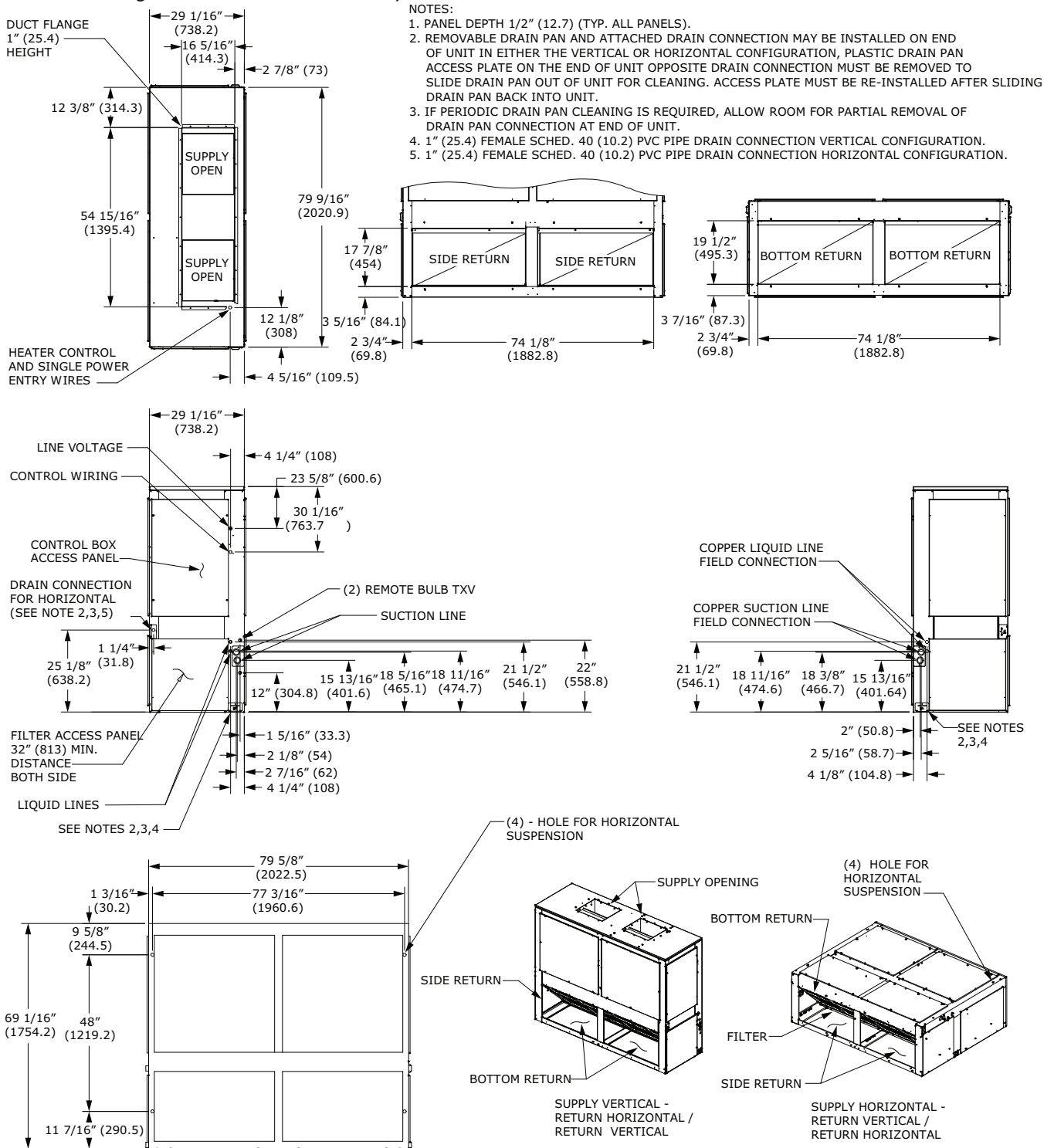
1. PANEL DEPTH 1/2" (12.7) (TYP. ALL PANELS).
2. REMOVABLE DRAIN PAN AND ATTACHED DRAIN CONNECTION MAY BE INSTALLED ON END OF UNIT IN EITHER THE VERTICAL OR HORIZONTAL CONFIGURATION, PLASTIC DRAIN PAN ACCESS PLATE ON THE END OF UNIT OPPOSITE DRAIN CONNECTION MUST BE REMOVED TO SLIDE DRAIN PAN OUT OF 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

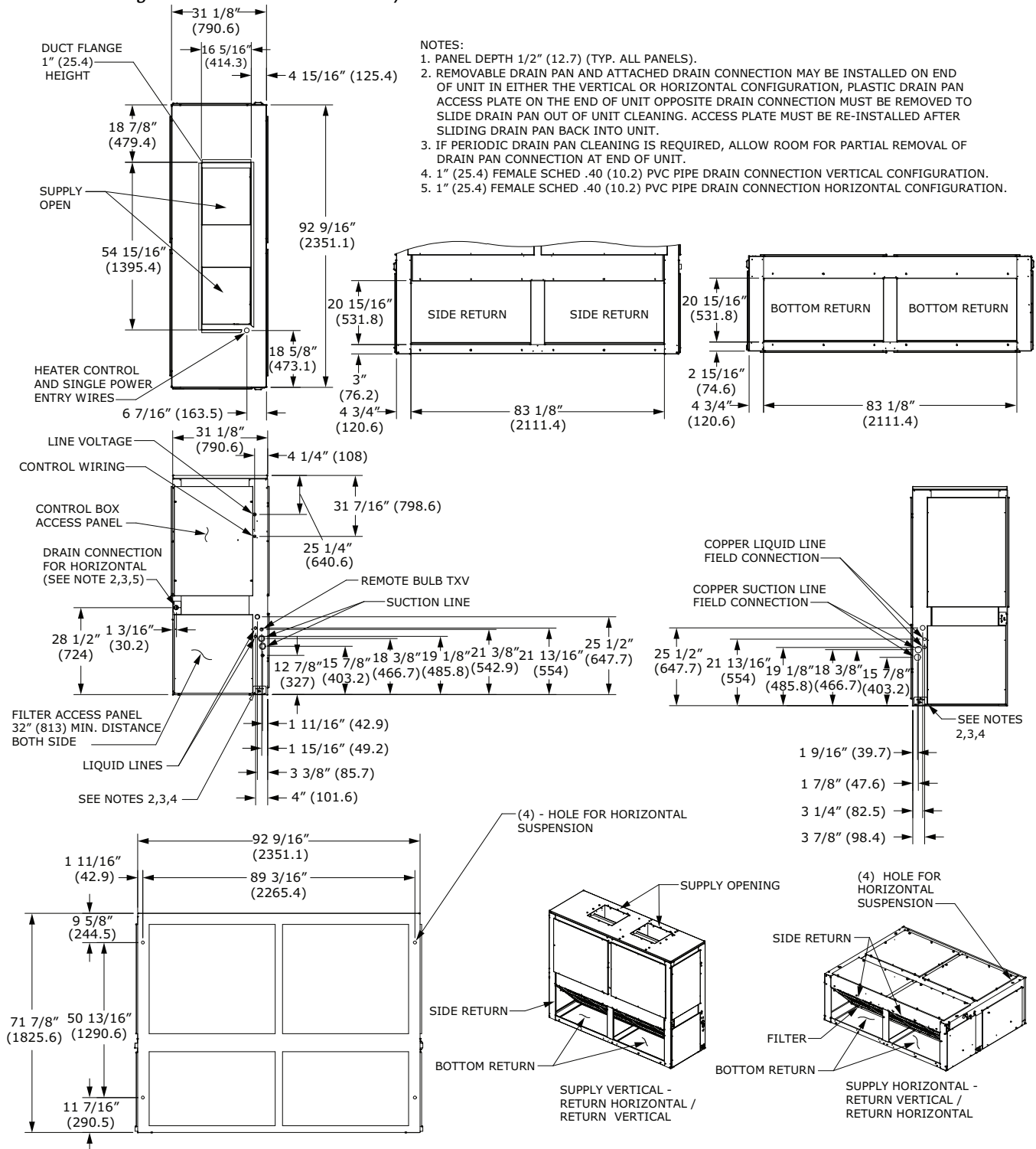
**Figure 27. 15 ton air handler, dual circuit – in (mm)**

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



**Figure 28. 20 ton air handler, dual circuit – in (mm)**

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



## Accessories

Figure 29. Rubber isolator accessory dimensions

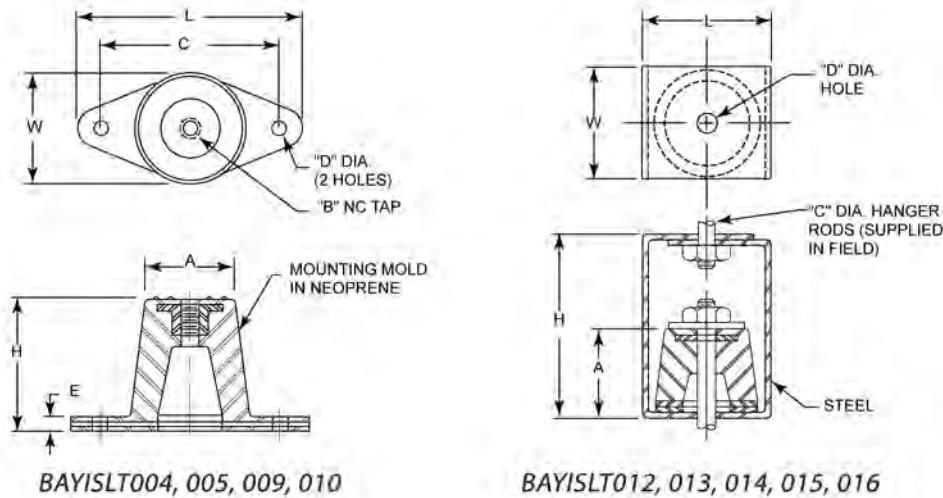


Table 67. Rubber isolator accessory dimensions – in (mm)

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(a)	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 30. Spring isolator accessory dimensions – in (mm)

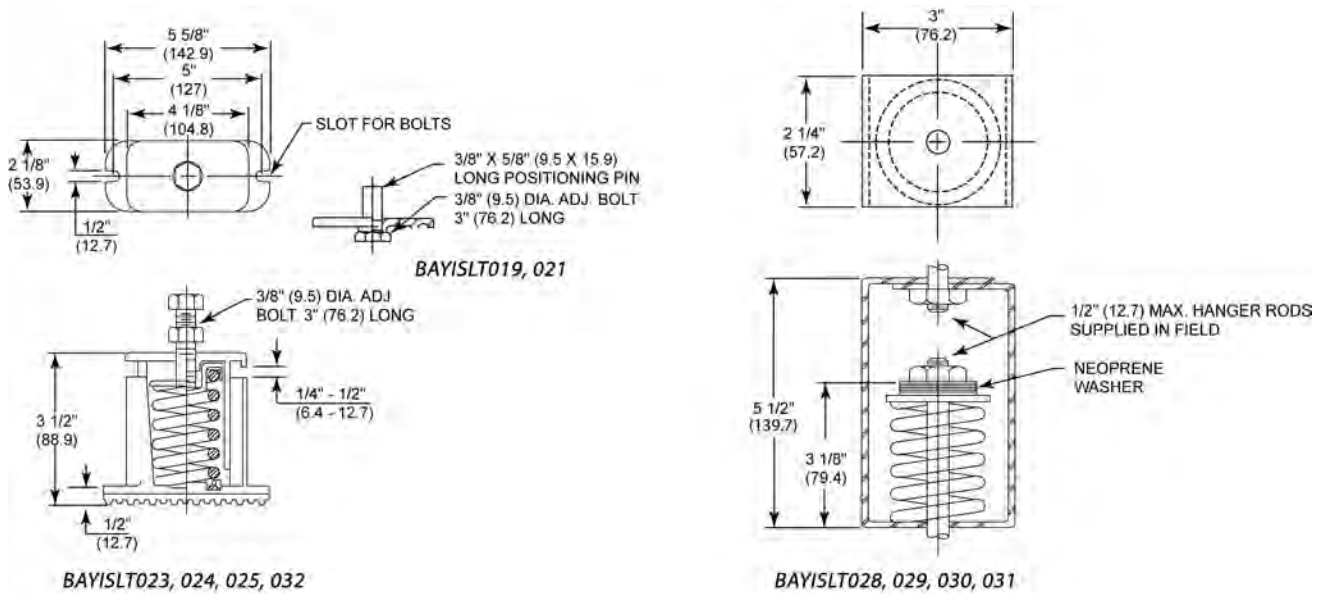
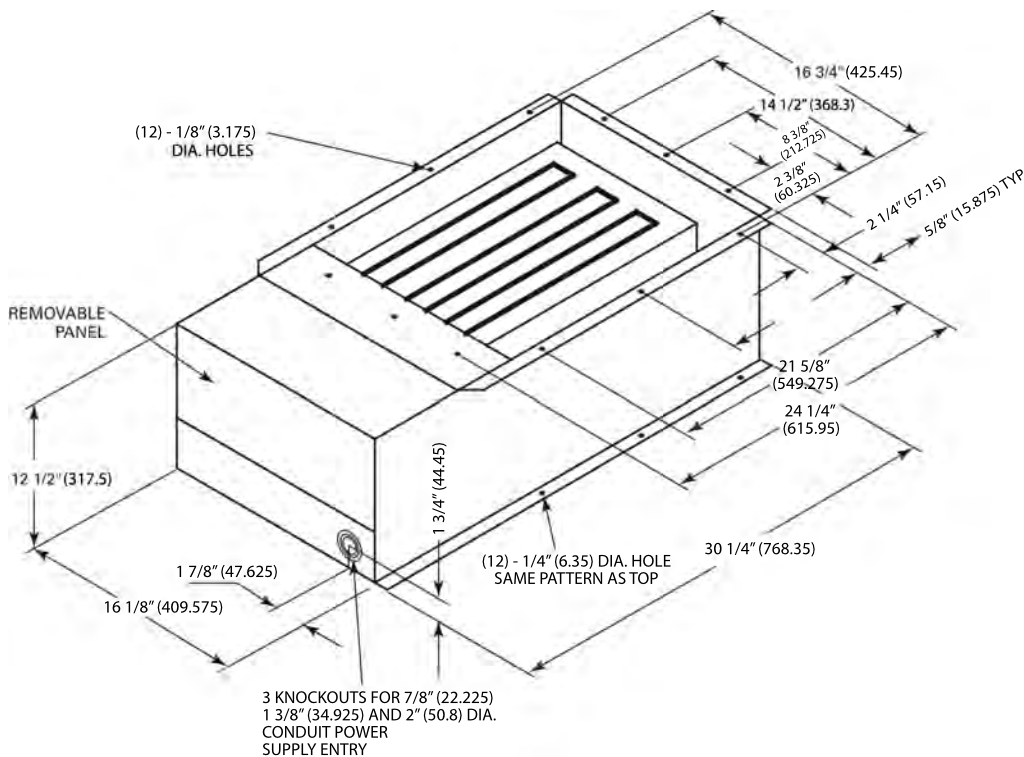


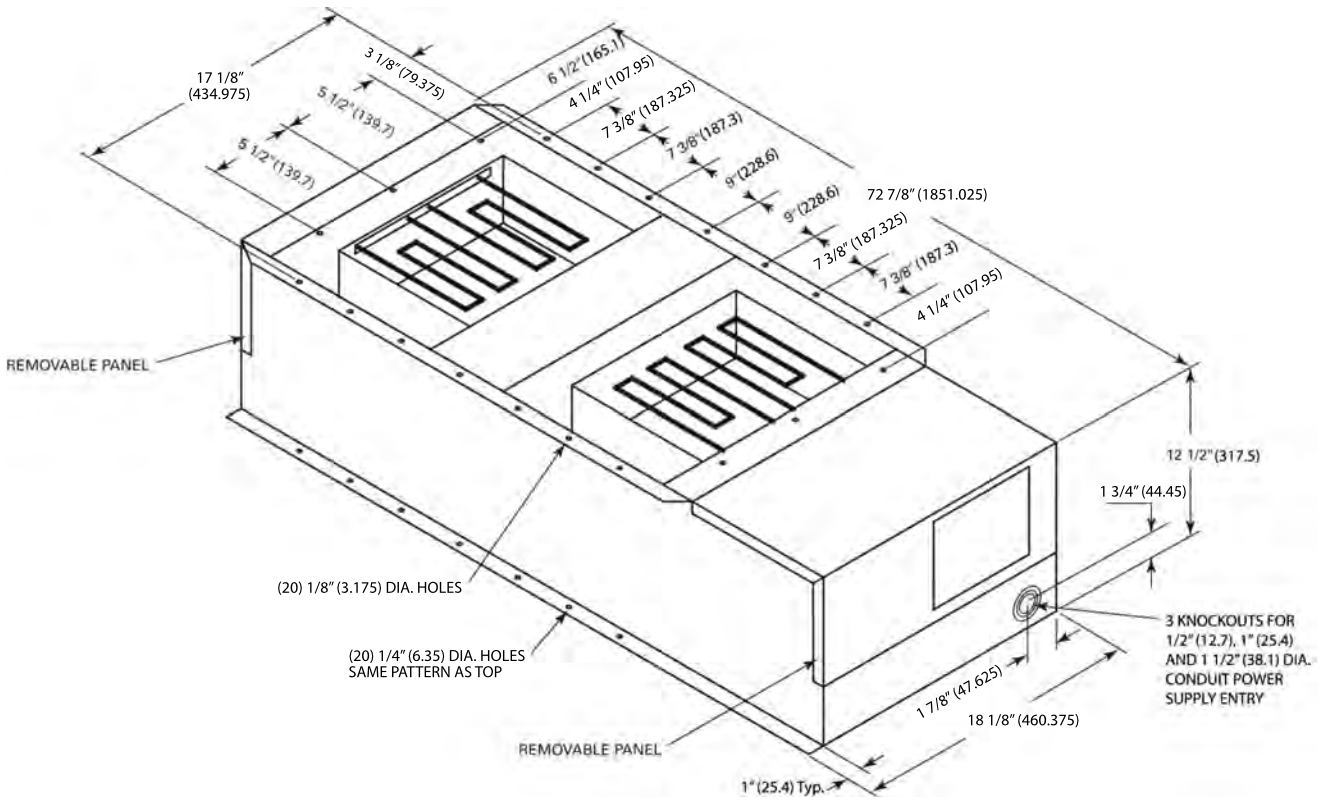
Figure 31. Electric heater accessory for 5-10 ton air handlers – in (mm)

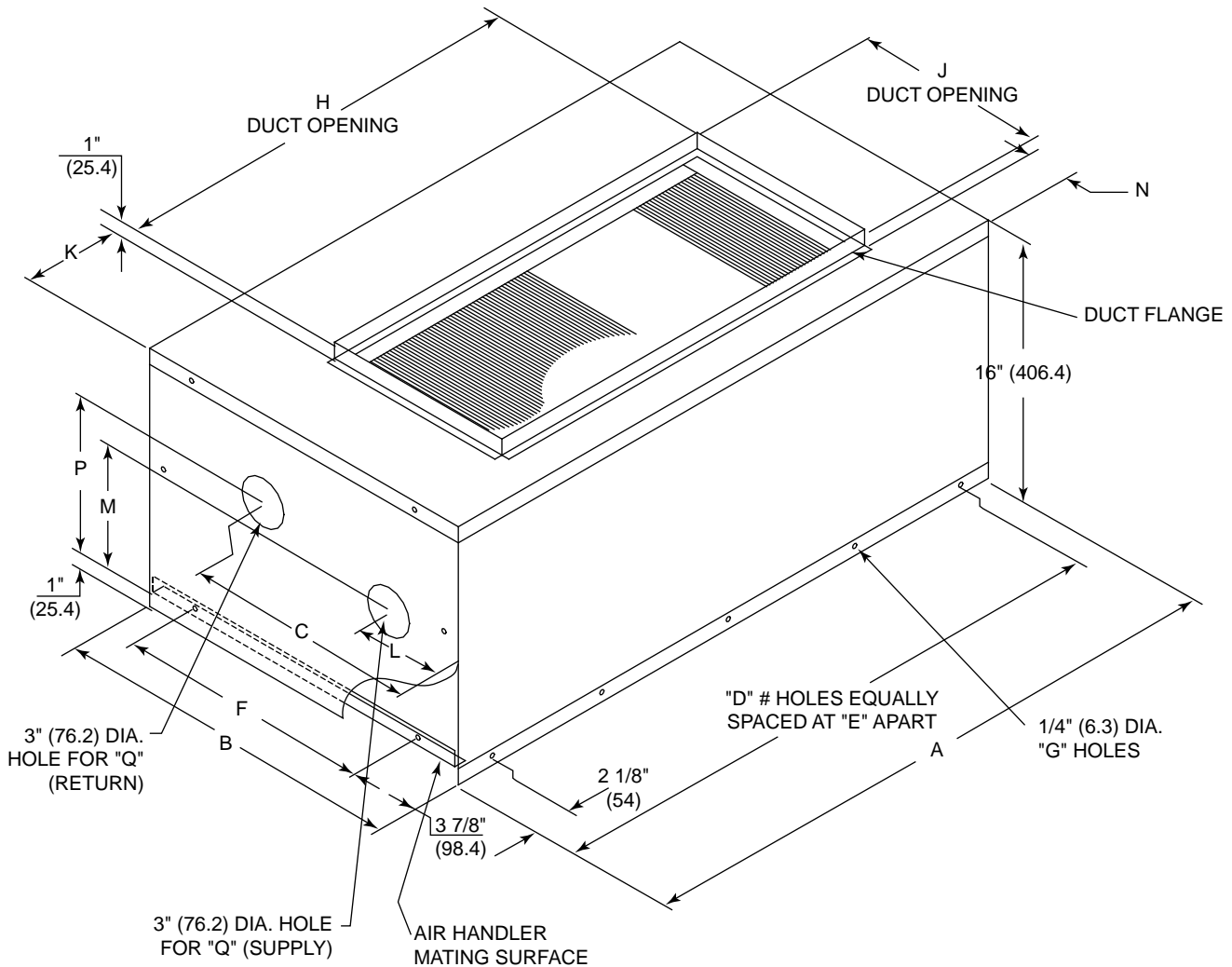




## Dimensional Data

Figure 32. Electric heater accessory for 12.5-20 ton air handlers – in (mm)



**Figure 33. Hot water coil accessory – in (mm)**


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

**Table 68. 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	

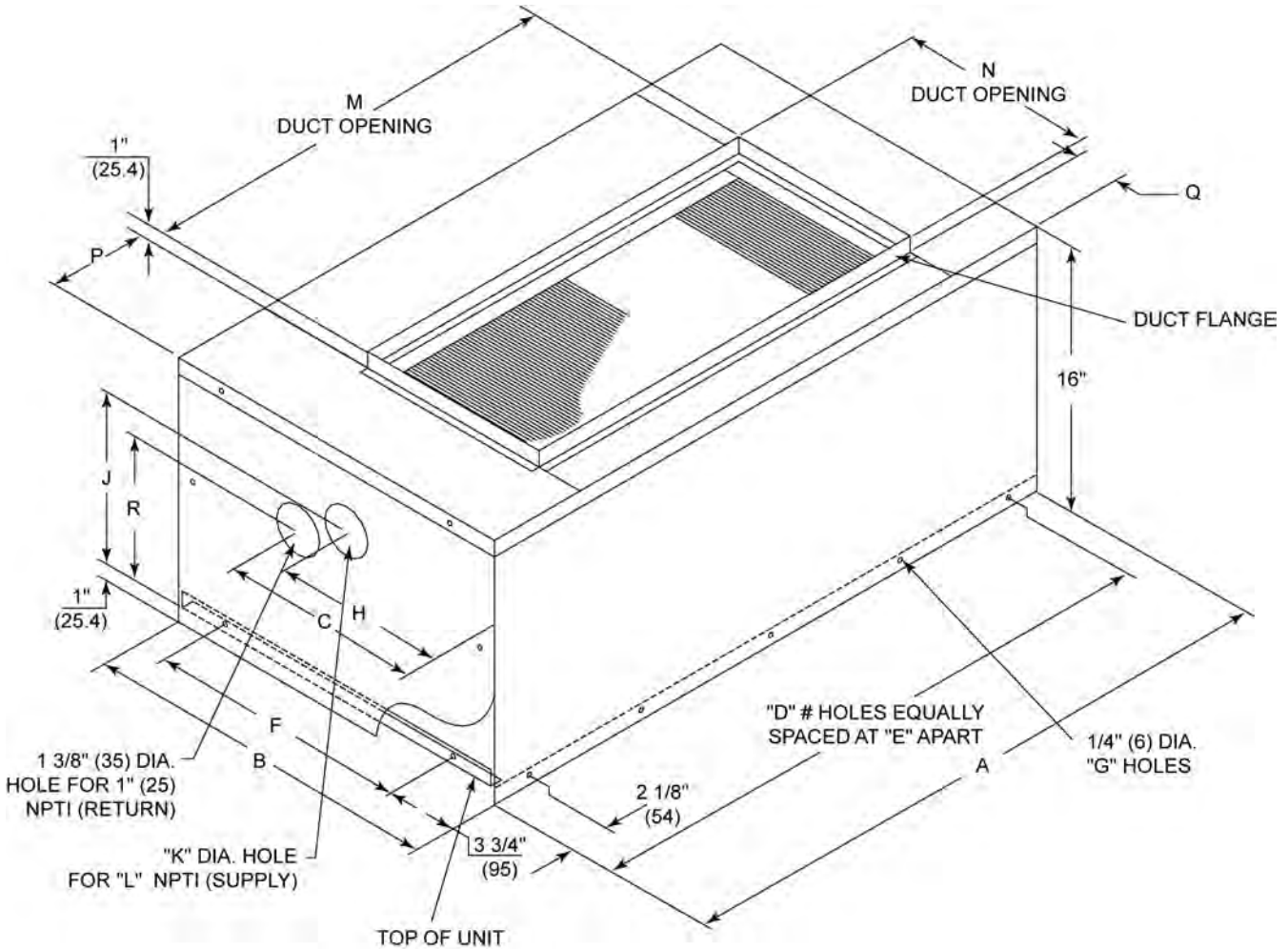
## Dimensional Data

**Table 68. 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 34. Steam coil accessory – in (mm)**



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

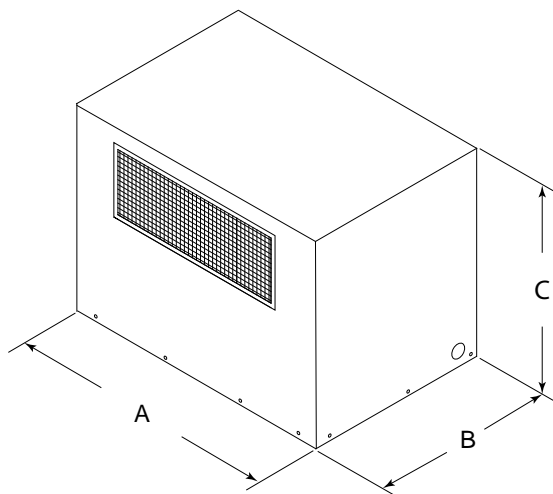
**Table 69. Steam coil accessory – in (mm)**

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 69. 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 35. Discharge plenum and grille accessory**

**Table 70. Discharge plenum and grille dimensions – no heat – in (mm)**

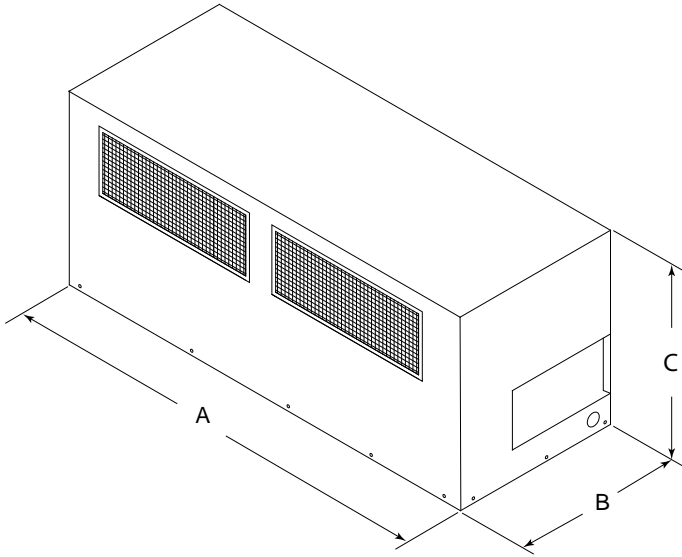
Unit	Model No. <sup>(a)</sup>	A	B	C
TWE060	BAYPLNM015	37.94 (963.6)	21.94 (557.2)	28 (711.2)
TWE072, TWE090	BAYPLNM016	47.5 (1206.5)	24.99 (634.7)	28 (711.2)
TWE120	BAYPLNM017	63.5 (1612.9)	24.99 (634.7)	28 (711.2)
TWE150, TWE180	BAYPLNM018 <sup>(b)</sup>	79.5 (2019.3)	27.63 (701.8)	22 (558.8)
TWE240	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.

## Dimensional Data

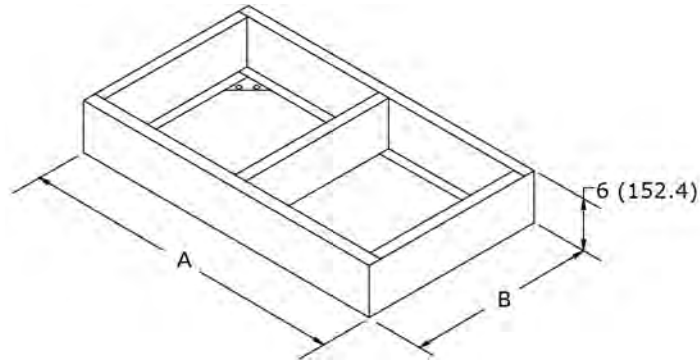
**Figure 36. Discharge plenum and grille accessory**



**Table 71. Discharge plenum and grille dimensions (for use with electric heat) – in (mm)**

Tons	Model No.	A	B	C
TWE060	BAYPLNM030	38.07 (967)	22.69 (576.3)	29.05 (738)
TWE072, TWE090	BAYPLNM031	47.86 (1216)	25.69 (652.5)	29.05 (738)
TWE120	BAYPLNM032	63.86 (1622)	25.69 (652.5)	29.05 (738)
TWE180	BAYPLNM033	80.14 (2036)	29.10 (739.1)	35.11 (892)
TWE240	BAYPLNM034	92.96 (2361)	31.10 (789.9)	35.05 (890)

**Figure 37. Subbase accessory – in (mm)**



**Table 72. Subbase dimensions – in (mm)**

Tons	Model No.	A	B
TWE060	BAYBASE009	38 (965.2)	22.63 (574.8)
TWE072, TWE090	BAYBASE010	47.5 (1206.5)	25.51 (648.0)
TWE120	BAYBASE011	63.5 (1612.9)	25.52 (648.2)
TWE180	BAYBASE012	79.5 (2019.3)	29.04 (737.6)
TWE240	BAYBASE013	92.5 (2349.5)	31.14 (791.0)



# Weights

## Heat Pump Condenser

Table 73. TWA R-410A unit and corner weights – lbs (60 Hz)

Tons	Model No.	Shipping Max (lbs)	Net Max (lbs)	Corner Weights			
				1	2	3	4
6	TWA0724*A	360	327	112	83	56	76
	TWA0724*D	413	356	124	84	90	58
7.5	TWA0904*A	382	332	82	117	60	73
	TWA0904*D	466	409	143	96	103	67
10	TWA1204*A	495	466	165	109	116	76
	TWA1204*D	478	435	152	102	109	71
15	TWA1804*D	874	762	235	167	196	164
20	TWA2404*D	1003	845	253	265	147	181

Figure 38. TWA072, 090, 120

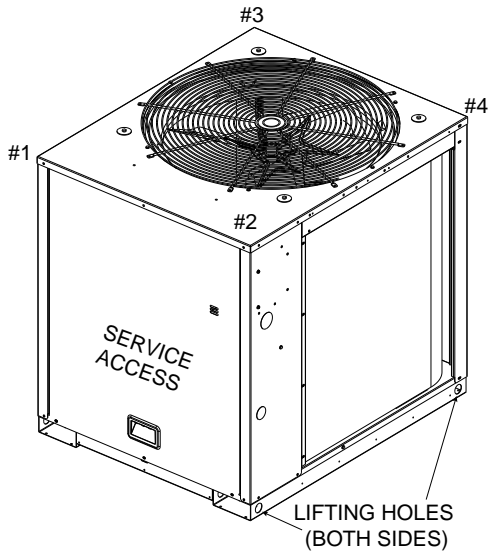
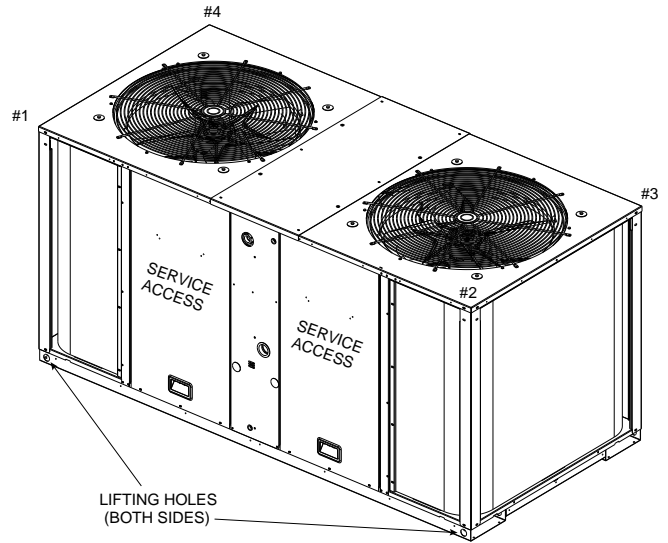


Figure 39. TWA180, 240



# Air Handler

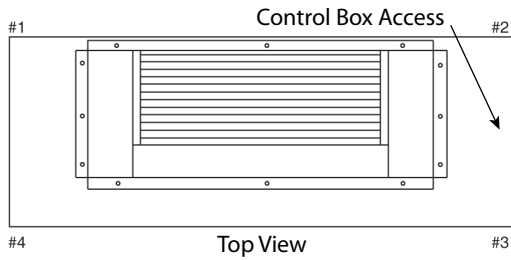
**Table 74. Constant volume air handler (TWE) – unit and corner weights - (60 Hz)**

Tons	Model Number	Shipping Max (lbs)	Net Max (lbs)	Corner Weights - Vertical				Corner Weights - Horizontal			
				1	2	3	4	1	2	3	4
5	TWE0604*A/B	285	232	55	71	51	55	54	67	50	61
6	TWE0724*B	385	323	67	99	75	82	56	92	87	88
7.5	TWE0904*A/B	385	323	67	99	75	82	56	92	87	88
10	TWE1204*A/B	441	393	77	121	110	85	79	118	77	119
15	TWE1804*B	752	675	167	192	181	135	196	163	145	171
20	TWE2404*B	912	818	258	168	161	231	256	181	146	235

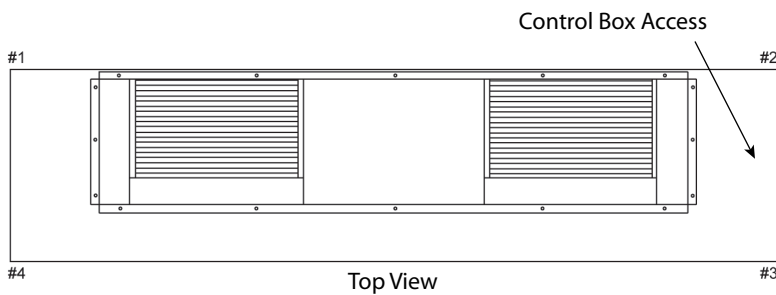
**Table 75. SZVAV and 2-Speed VFD air handler (TWE) – unit and corner weights - (60 Hz)**

Tons	Model Number	Shipping Max (lbs)	Net Max (lbs)	Corner Weights - Vertical				Corner Weights - Horizontal			
				1	2	3	4	1	2	3	4
6	TWE0724*B	385	323	67	99	75	82	56	92	87	88
7.5	TWE0904*B	385	323	67	99	75	82	56	92	87	88
10	TWE1204*A/B	441	393	77	121	110	85	79	118	77	119
15	TWE1804*B	752	675	167	192	181	135	196	163	145	171
20	TWE2404*B	912	818	258	168	161	231	256	181	146	235

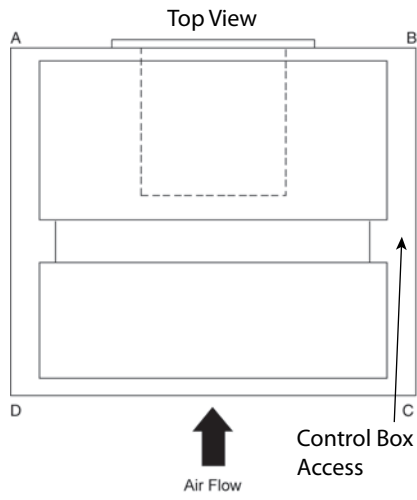
**Figure 40. Vertical – TWE060, 072, 090, 120**



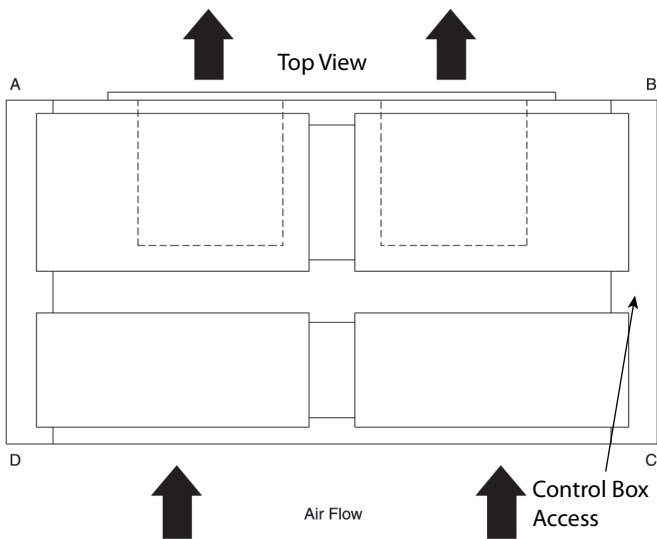
**Figure 41. Vertical – TWE180, 240**



**Figure 42. Horizontal – TWE060, 072, 090, 120**



**Figure 43. Horizontal – TWE180, 240**





## Weights

### Accessories

Table 76. 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
6	116	131	78	73	160	5	27/45	19.4	48	2
7.5	116	131	78	73	160	5	27/45	19.4	48	2
10	165	148	97	92	195	7	27/45	23.5	50	2
15	211	234	—	230	235	10	79/100	28.4	80	2
20	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	
6	6	12	6	21	4	1	13	13	5	
7.5	6	12	6	21	4	1	13	13	5	
10	7	12	6	28	4	1	13	13	5	
15	7	12	6	55	4	1	2	2	5	
20	9	12	6	55	4	1	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
- Certified and rated in accordance with AHRI and DOE standards
- Certified to UL 1995
- Capacities and efficiencies for split systems are rated within the scope of the Air-Conditioning, Heating, & Refrigeration Institute (AHRI) certification program and display the AHRI Standard 340-360 (I-P) mark. This standard applies to units between 65,000 and 250,000 btu/hr.

#### 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 (TWA072\*\*A, TWA090\*\*A, TWA120\*\*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 (TWA072\*\*D, TWA090\*\*D, TWA120\*\*D, TWA180\*\*D, TWA240\*\*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



## Mechanical Specifications

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- 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" 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" or 28" 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

## Factory Installed Options

### Hail Guards

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

### 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

### 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
- Certified to UL 1995 for indoor blower coil units

#### 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



## Mechanical Specifications

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### 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 12.5 - 20 ton air handlers
- Adjustable belt drive
- Permanently lubricated bearings

### Indoor Motor

- Adjustable motor sheaves (constant volume units)
- Fixed motor sheaves (SZVAV and 2-Speed VFD)
- 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 5 - 10 ton units
- Filter rack convertible to two inch (2") capability on 5 - 10 ton units
- Two inch (2"), throwaway filters on 12.5 - 20 ton units

## Factory Installed Options

### Constant Volume Airflow

Factory installed high static motor available

### 2-Speed VFD Control (Pairing with Legacy Electromechanical Condensers)

- 2-Speed airflow
- Variable Frequency Drive (VFD)
- Motor soft start — avoids start up belt noise and increases belt life
- Programmable keypad accessible outside of airstream
- VFD rated motor
- Factory installed high static motor available

**Single Zone Variable Air Volume / 2-Speed Airflow**

- Variable Frequency Drive (VFD)
- Motor soft start — avoids start up belt noise and increases belt life
- Programmable VFD keypad accessible outside of airstream
- Airflow adjustment via display/keypad on Symbio™ 700 controller in condenser
- Discharge air sensor
- Symbio 700 Options Module
- VFD rated motor
- Factory installed oversized motor available

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

- Heavy duty nickel chromium elements
- Agency approved
- Installs directly on fan discharge
- One or two stage control (dependent upon capacity)
- Single point power entry
- Terminal strip connections
- 460V Heaters
  - Internally wye connected
  - Automatic line break high limit controls with secondary single action disc limits
- 230V Heaters
  - Internally delta connected
  - Automatic reset of high limit controls through pilot duty with secondary backup fuse links

**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
- 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



## Mechanical Specifications

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### **Oversize Motors**

- High static applications
- Motor, sheaves, belt included

### **Filters**

- 2 inch, MERV 13 high efficiency filters





Notes

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