



Product Catalog

Packaged Rooftop Air Conditioners **Precedent™ — Heat Pump** 3 to 10Tons — 60 Hz





Introduction

Packaged Heat Pumps

Trane® customers demand products that provide exceptional reliability, meet stringent performance requirements, and are competitively priced.

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

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

Electromechanical controls are available for simpler applications, and for the more sophisticated, ReliaTel™ microprocessor controls.

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

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

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Revision History

PKGP-PRC013K-EN (16 Feb 2015)

- Removed references to single phase 3 to 5 ton models

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Features and Benefits

Standard Features

- 5-year Limited Compressor Warranty
- 5-year Limited Heat Exchanger Warranty
- 1-year Limited Parts Warranty
- Anti-Short Cycle Timer (Standard with ReliaTel™)
- Colored and Numbered Wiring
- Convertible Airflow
- Crankcase Heaters¹
- Easy Access Low Voltage Terminal Board (LTB)
- ReliaTel™ Microprocessor Controls
- Filters are Standard on all Units
- Foil-Faced and Edge Captured Insulation
- High Pressure Control
- IAQ Dual Sloped, Plastic, Removable, Reversible Drain Pan
- Liquid Line Refrigerant Drier
- Low Ambient Cooling to 0°F on Microprocessor Models
- Low Pressure Control
- Multispeed Direct Drive Motors on Select Models
- Operating Charge of R-410A
- Patent-Pending Hybrid Condenser Coil for easy cleaning
- Phase Loss Protection
- Phase Monitor
- Phase Reversal Protection
- Phase Balance Protection
- Plenum Fan on Select Models
- Provisions for Through-the-Base Condensate Drain Connections
- Quick Access Panels
- Quick Adjust Fan Motor Mounting Plate on Belt Drive Models
- Single Point Power
- Single Side Service
- Standardized Components
- Thermal Expansion Valve
- Trane® built Scroll Compressors

¹ Crankcase heaters are optional on: WSC036E, WSC048E1, WSC060E1

Options¹

Factory Installed Options

- Black Epoxy Pre-Coated Coils
- CO₂ Sensor (Wiring Only)
- Condensate Overflow Switch
- Crankcase Heaters
- Fault Detection & Diagnostics (FDD); Meets CA Title 24 Requirements
- Hinged Access Doors
- Human Interface - 5 inch Color Touchscreen
- Multi-Speed Indoor Fan System
- Powered or Unpowered Convenience Outlet
- Single Zone Variable Air Volume (SZVAV)
- Stainless Steel Drain Pan
- Supply, Return or Plenum Air Smoke Detector
- Through-the-Base Electrical Access
- Through-the-Base Electrical with Circuit Breaker
- Through-the-Base Electrical with Disconnect Switch
- 2" MERV 8 Filters or 2" MERV 13 Filters with Filter Removal Tool

Factory or Field Installed Options

- Barometric Relief
- Clogged Filter/Fan Failure Switch
- Discharge Air Temperature Sensing Kit
- Economizer: Standard and Low Leak
- Electric Heaters
- Froststat™
- LonTalk® Communications Interface (LCI)
- BACnet® Communications Interface (BCI)
- Reference or Comparative Enthalpy
- Tool-less Hail Guards
- Trane® Communications Interface (TCI)

Field Installed Options

- CO₂ Sensor Only Kit / CO₂ Sensor and Wiring Kit
- Dual Thermistor Remote Zone Sensor
- Economizer: Low Leak
- High Altitude Kit
- High Static Drive
- Manual Outside Air Damper
- Motorized Outside Air Dampers

¹ Refer to Model Number Description for option availability.



Features and Benefits

- Powered Exhaust
- Quick Adapt Curbs
- Quick Start Kit
- Remote Potentiometer
- Roof Curb
- Thermostat
- Ventilation Override Accessory
- Zone Sensor

Other Benefits

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

Standard Features

Anti-Short Cycle Timer (Standard with ReliaTel™)

Provides a 3 minute minimum “ON” time and 3 minute “OFF” time for compressors to enhance compressor reliability by assuring proper oil return.

Colored And Numbered Wiring

Save time and money tracing wires and diagnosing the unit.

Compressor



Precedent™ contains the best compressor technology available to achieve the highest possible performance.

Dual compressors are outstanding for humidity control, light load cooling conditions and system back-up applications (available on 10 ton units only).

Features and Benefits

Condenser Coil



Precedent™ boasts a patent-pending 1+1+1 condenser coil, permanently gapped for easy cleaning.

Controls – ReliaTel™

ReliaTel™ microprocessor controls provide unit control for heating, cooling and ventilating utilizing input from sensors that measure indoor and outdoor temperature and other zone sensors. ReliaTel™ also provides outputs for building automation systems and expanded diagnostics. For a complete list of ReliaTel™ offerings, refer to the “Other Benefits” section within the Features and Benefits section of this catalog.

Convertible Units



The units ship in a downflow configuration. They can be easily converted to horizontal by simply moving two panels.

Units come complete with horizontal duct flanges so the contractor doesn't have to field fabricate them. These duct flanges are a time and cost saver.

Cooling

Standard or High Efficiency cooling available.

Crankcase Heaters¹

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

Direct Drive Motors

For additional static requirements, single-phase units offer multi-speed, direct drive motors. All 10 ton units offer variable speed direct drive motors.

IAQ Dual Sloped, Plastic, Removable, Reversible Drain Pans



Every Precedent™ unit has a plastic, removable, dual-sloped drain pan that's easy to clean and reversible to allow installation of drain trap on either side of the unit.

¹ Crankcase heaters are optional on: WSC036E, WSC048E1, WSC060E1

Features and Benefits

Easy Access Low Voltage Terminal Board



Precedent's™ Low Voltage Terminal Board is external to the electrical control cabinet. It is extremely easy to locate and attach the thermostat wire and test operation of all unit functions. This is another cost and time saving installation feature.

Foil Faced Insulation



All panels in the evaporator section of the unit have cleanable foil-faced insulation. All edges are either captured or sealed to ensure no insulation fibers get into the airstream.

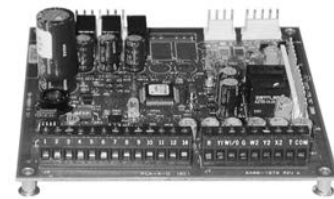
High Pressure Control

All units include High Pressure Control as standard.

Low Ambient Cooling

All Precedent™ microprocessor units have cooling capabilities down to 0°F as standard.

Low Voltage Connections



The wiring of the low voltage connections to the unit and the zone sensors is as simple as 1-1, 2-2, and 3-3. This simplified system makes it easy for the installer to wire.

Phase Monitoring Protection

Precedent™ units with 3-phase power are equipped with phase monitoring protection as standard. These devices protect motors and compressors against problems caused by phase loss, phase imbalance and phase reversal indication.

Plenum Fan

The following unit shall be equipped with a direct drive plenum fan design (WSC120E). Plenum fan design shall include a backward-curved fan wheel along with an external rotor direct drive variable speed indoor motor. All plenum fan designs will have a variable speed adjustment potentiometer located in the control box.

Quick-Access Panels

Remove two screws for access to the standardized internal components and wiring.

Quick-Adjust Idler Arm

With the Quick-Adjust Idler Arm, the belt and sheaves can be quickly adjusted without moving the mounted fan motor. The result is a major savings in time and money.

Single Point Power

A single electrical connection powers the unit.

Single Side Service

Single side service is standard on all units.

Standardized Components

Components are placed in the same location on all Precedent™ units. Due to standardized components throughout the Precedent™ line, contractors/owners can stock fewer parts.

Thermal Expansion Valve

This feature is standard on all units.

Through-the-Base Condensate

Every unit includes provisions for through-the-base condensate drain connections. This allows the drain to be connected through the roof curb instead of a roof penetration.

Variety of Options

Factory Installed Options¹

Belt Drive Motors (Three-phase)

For additional static requirements, Precedent™ 3-5 ton units offer an optional belt drive motor to meet a wide range of airflow needs.

Black Epoxy Pre-Coated Coils

The pre-coated coils are an economical option for protection in mildly corrosive environments.

Circuit Breaker (Required with Through-the-Base Electrical)

This option is a factory installed thermal magnetic, molded case, HACR Circuit Breaker with provisions for through-the-base electrical connections.

CO₂ Sensor Wiring

Factory-installed CO₂ sensor wiring saves time and ensures proper unit connections for the field installed CO₂ sensor kits.

¹ Refer to Model Number Description for option availability.

Features and Benefits

Condensate Overflow Switch

A condensate overflow switch is available to shut the unit down in the event that the condensate drain line becomes clogged. This option protects the unit from water overflowing from the drain pan and entering the base of the unit.

Crankcase Heaters

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

Disconnect Switch (Available with Through-the-Base Electrical)

Factory installed 3-pole, molded case, disconnect switch with provisions for through-the-base electrical connections are available.

Codes require a method of assured unit shutdown for servicing. Field-installed disconnects sometimes interfere with service access. Factory installation of unit disconnects reduces costs, assures proper mounting and provides the opportunity to upgrade to unit circuit breaker protection.

Fault Detection & Diagnostics (FDD)

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

High Efficiency Filtration

Precedent™ units offer a variety of high efficiency filtration options. MERV 8 and MERV 13 filters provide additional filtration beyond the capabilities of typical 2" throwaway filters. Also, when MERV 8 or MERV 13 filters are ordered, units come equipped with a filter removal tool.

Hinged Access Doors



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

Human Interface - 5 Inch Color Touchscreen

The 5 inch Color Touchscreen Human Interface provides an intuitive user interface to the rooftop unit that speeds up unit commissioning, shortens unit troubleshooting times, and enhances preventative maintenance measures. The human interface includes several features.



- Data trending capabilities by means of time series graphs
- Historical alarm messages
- Real-time sensor measurements
- On board system setpoints
- USB port that enables the downloading of component runtime information as well as trended historical sensor data
- Customized reports

Note: Refer to RT-SVX49*-EN for additional information.

Multi-Speed Indoor Fan System

Multi-speed indoor fan system is designed for use in applications for meeting the minimum requirement of CA Title 24.

This system incorporates a multi-speed fan control to change the speed of the fan to 67% of full airflow based off of compressor stages.

Powered or Unpowered Convenience Outlet



This option is a GFCI, 120V/15amp, 2 plug, convenience outlet, either powered or unpowered. This option can only be ordered when Through-the-Base Electrical with either the Disconnect Switch or Circuit Breaker option is ordered.

Note: Not available on 10 Ton 575V units.

Single Zone Variable Air Volume (SZVAV) – One Zone Variable Air Volume Mode

Single Zone Variable Air Volume is designed for use in single zone applications like gymnasiums, auditoriums, manufacturing facilities, retail box stores, and any large open spaces, where there is a lot of diversity in the load profile. SZVAV is an ideal replacement to “yesterday’s” constant volume (CV) systems, by reducing operating costs while improving occupant comfort. SZVAV systems combine Trane® application, control and system integration knowledge to exactly match fan speed with cooling and heating loads, regardless of the operating condition. Trane® algorithms meet/exceed ASHRAE 90.1- 2010, SZVAV energy-saving recommendations, and those of CA Title 24. The result is an optimized balance between zone temperature control and system energy savings. Depending on your specific application, energy savings can be as much as 20+%.

Note: Building system modeling in energy simulation software like TRACE is recommended to evaluate performance improvements for your application.

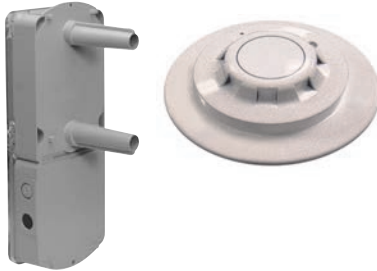
Single Zone Variable Air Volume is fully integrated into the ReliaTel™ Control system and is available today. It provides the simplest and fastest commissioning in the industry through proven factory-installed, wired, and tested system controllers. All control modules, logic and sensors are factory installed,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

Stainless Steel Drain Pan

For excellent corrosion and oxidation resistance, the optional stainless steel drain pan provides a cleanable surface that complement other IAQ solutions such as high efficiency filtration (MERV 8 or 13) and demand control ventilation (CO₂).

Features and Benefits

Supply, Return, and Plenum Air Smoke Detector



With this option installed, if smoke is detected, all unit operation will be shut down. Reset will be manual at the unit. In order for the supply air smoke detector or return air smoke detector to properly sense smoke in the supply air stream or the return air stream, the air velocity entering the smoke detector unit must be between 500 - 4000 feet per minute. Equipment covered in this manual will develop an airflow velocity that falls within these limits over the entire airflow range specified in the evaporator fan performance table. Supply and/or Return Smoke Detectors may not be used with the Plenum Smoke Detector.

Through-the-Base Electrical Utility Access



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

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

Factory or Field Installed Options¹

Barometric Relief

Designed to be used on downflow units, barometric relief is an unpowered means of relieving excess building pressure.

Clogged Filter/Fan Failure Switch

A dedicated differential pressure switch is available to achieve active fan failure indication and/or clogged filter indication.

These sensors allow a zone sensor service light to indicate a dirty filter or a fan that's not working. The field installation charges for these valuable feedback devices often eliminate them from consideration. Factory installation can make such features a good investment.

Discharge Air Temperature Sensing Kit

Provides true discharge air temperature sensing in heating models. The kit is functional only with the ReliaTel™ Options Module.

Economizer (Standard)

This accessory shall be available with or without barometric relief. The assembly includes fully modulating 0-100 percent motor and dampers, minimum position setting, preset linkage, wiring harness with plug, spring return actuator and fixed dry bulb control. The barometric relief shall provide a pressure operated damper that shall be gravity closing and shall prohibit entrance of outside air during the equipment "off" cycle. Optional solid state or differential enthalpy control shall be available for either factory or field installation. The economizer arrives in the shipping position and shall be moved to the operating position by the installing contractor.

¹ Refer to Model Number Description for option availability.

Electric Heaters

Electric heat modules are available within the basic unit. If ordering the Through-the-Base Electrical option with an Electrical Heater, the heater must be factory installed.

Fresh Air Options – Dampers and Economizer

0 - 25% manual or 0 - 50% motorized outside air hoods are available.

Economizers are equipped with either dry bulb or reference or comparative enthalpy sensing. These economizers provide free cooling as the outdoor temperature and/or humidity decreases. Correctly installed, they offer a valuable energy savings. Factory-installed economizers save time and ensure proper installation.

Due to varying supply fan speed 0-50% motorized damper is not available with multi-speed or SZVAV applications.

The economizers come with three control options — dry bulb is standard, enthalpy and differential enthalpy are optional.

Frostat™

This capillary bulb embedded in the face of the evaporator coil monitors coil temperature to prevent evaporator icing and protect the compressor. Recommended for applications with low leaving air temperatures, low airflow and or high latent load applications.

Low Leak Economizer

This accessory meets low leak requirements for ASHRAE 90.1, IECC, and CA Title 24 standards (3 cfm/ft²@1" wg exterior air, 4 cfm/ft²@1" wg return air). This option allows 100% outdoor air supply from 0-100% modulating dampers and is standard with barometric relief. It can be paired with powered exhaust for additional building pressure relief. This option can be paired with or without Fault Detection & Diagnostics (FDD) to meet current mandatory CA Title 24 requirements. Available on downflow units only.

Reference or Comparative Enthalpy

Measures and communicates humidity while maximizing comfort control.

Tool-less Hail Guards



Tool-less, hail protection quality coil guards shall be either factory or field-installed for condenser coil protection. This option protects the condenser coil from vandalism and/or hail damage.

Field Installed Options¹

CO₂ Sensing Kits

Two field installed kits are offered: CO₂ sensor and wiring or CO₂ sensor only. The CO₂ sensor only kit should be ordered with factory installed CO₂ sensor wiring. Factory installed CO₂ sensor wiring saves set-up time and ensures proper unit connections for the CO₂ sensor.

The CO₂ sensor has the ability to monitor space occupancy levels within the building by measuring the parts per million of CO₂ (Carbon Dioxide) in the air. As the CO₂ levels increase, the outside air damper modulates to meet the CO₂ space ventilation requirements.

¹ Refer to Model Number Description for option availability.

Features and Benefits

High Static Drive

Available on many models, this high static drive accessory extends the capability of the standard motor. Avoid expensive motors and operating costs by installing this optimized sheave accessory.

Low Leak Economizer

This accessory meets low leak requirements for ASHRAE 90.1, IECC, and CA Title 24 standards (3 cfm/ft²@1" wg exterior air, 4 cfm/ft²@1" wg return air). This option allows 100% outdoor air supply from 0-100% modulating dampers and is standard with barometric relief. It can be paired with powered exhaust for additional building pressure relief. Available on downflow units only.

Quick Adapt Curbs

Enables easy conversion of existing Voyager™ 3-10 ton units to Precedent™ units on replacement jobs.

Quick Start Kits

Single phase equipment to enable startup and prevent building lighting dimming during low voltage.

Roof Curbs

Available for downflow units. Only three roof curbs for the entire line simplifies curb selection.

Remote Potentiometer

When properly installed in the economizer control circuitry, this accessory provides a remote variable resistance to enable the operator to adjust the minimum damper position.

Ventilation Override Accessory

With the Ventilation Override Accessory installed, the unit can be set to transition to up to 3 different pre-programmed sequences for Smoke Purge, Pressurization, and Exhaust. The transition occurs when a binary input on the RTOM is closed (shorted). This would typically be a hard wired relay output from a smoke detector or fire control panel. The ventilation override kit is available as a field installed accessory.

Zone Sensors/Thermostats

Available in programmable, automatic and manual styles.

Other Benefits

Airflow Distribution

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

Cabinet Integrity



For added water integrity, Precedent™ has a raised 1 1/8" lip around the supply and return of the downflow units to prevent water from blowing into the ductwork.

Easy to Install, Service and Maintain

Because today's owners are very cost-conscious when it comes to service and maintenance, the Precedent™ unit 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

Features and Benefits

save the owner money. Precedent™ 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.

Flexibility

Precedent™ offers ultimate flexibility. Units are built to order in our standard “shortest in the industry” ship cycle time.

ReliaTel™ Controls

ReliaTel™ controls provide unit control for heating, cooling and ventilating utilizing input from sensors that measure outdoor and indoor temperature.

ReliaTel™ Control Logic Enhances Quality and Reliability

- prevents the unit from short cycling, considerably improving compressor life.
- ensures that the compressor will run for a specific amount of time which allows oil to return for better lubrication, enhancing the reliability of the compressor.

Precedent™ units with ReliaTel™ reduces the number of components required to operate the unit, thereby reducing possibilities for component failure.

ReliaTel™ Makes Installing and Servicing Easy

ReliaTel™ eliminates the need for field installed anti shortcycle timer and time delay relays.

ReliaTel™ eliminates the need for field installed anti-shortcycle timer and time delay relays.

ReliaTel™ controls provide these functions as an integral part of the unit. The contractor no longer has to purchase these controls as options and pay to install them.

The wiring of the low voltage connections to the unit and the zone sensors is as easy as 1-1, 2-2, and 3-3. This simplified system makes wiring easier for the installer.

ReliaTel™ Makes Testing Easy

ReliaTel™ requires no special tools to run the Precedent™ unit through its paces. Simply place a jumper between Test 1 and Test 2 terminals on the Low Voltage Terminal Board and the unit will walk through its operational steps automatically.

The unit automatically returns control to the zone sensor after stepping through the test mode a single time, even if the jumper is left on the unit.

As long as the unit has power and the “system on” LED is lit, ReliaTel™ is operational. The light indicates that the controls are functioning properly.

Some zone sensor options have central control panel lights which indicate the mode the unit is in and possible diagnostic information (dirty filters for example).

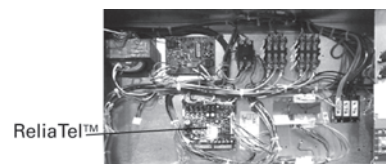
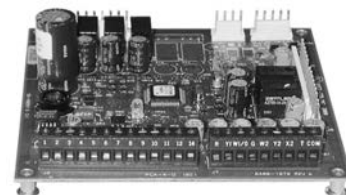
Other ReliaTel™ Benefits

The ReliaTel™ built-in anti-shortcycle timer, time delay relay and minimum “on” time control functions are factory tested to assure proper operation.

ReliaTel™ softens electrical “spikes” by staging on fans, compressors and heaters.

Intelligent Fallback is a benefit to the building occupant. If a component fails, the unit will continue to operate at predetermined temperature setpoint.

Intelligent Anticipation is a standard ReliaTel™ feature. It functions continuously as ReliaTel™ and zone sensor(s) work together in harmony to provide much tighter comfort control.





Features and Benefits

The same ReliaTel™ Board fits all Heat Pump models. This provides standardization of parts for contractors. Less money is tied up in inventory with ReliaTel™.

Unit Cabinet

The compact cabinet with rounded corners takes up less room and is less costly to ship. The beveled and ribbed top is not only aesthetically pleasing, it is designed to prevent water from pooling.

Rigorous Testing

All of Precedent's™ designs were rigorously rain tested at the factory to ensure water integrity.

Actual shipping tests were performed to determine packaging requirements. Units were test shipped around the country to determine the best packaging. Factory shake and drop tests were 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.

We perform a 100% coil leak test at the factory. The evaporator and condenser coils are leak tested at 600 psig. The assembled unit is leak tested to 465 psig.

All parts are inspected at the point of final assembly. Sub-standard parts are identified and rejected immediately.

Every unit receives a 100% unit run test before leaving the production line to make sure it lives up to rigorous Trane® requirements.

Application Considerations

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

Barometric Relief

This product line offers an optional barometric relief damper for use in conjunction with economizer option. This accessory consists of gravity dampers which open with increased pressure. As the building air pressure increases, the pressure in the unit return air section also increases, opening the dampers and relieving the conditioned space.

Note: *The effectiveness of barometric relief damper during economizing operation is limited, depending on the pressure drop of the return-air path. For some applications, powered exhaust may be better suited for preventing over-pressurization when economizing.*

Black Epoxy Coil

The coils are manufactured with a thermoset, vinyl coating that is bonded to the aluminum fin stock prior to the fin stamping process. These coils are an economical option for protection in mildly corrosive environments.

Note: *Not to be used where seacoast applications exist.*

Clearance Requirements

The recommended clearances identified with unit dimensions should be maintained to assure adequate service maximum capacity and peak operating efficiency. Actual clearances which appear inadequate should be reviewed with the local Trane® sales personnel.

Model Number	Clearance required from duct to combustible surfaces (inches)
WSC036E	0
WSC048E	0
WSC060E	0
WSC072E	1
WSC090E	1
WSC120E	1

Condensate Trap

The evaporator is a draw-thru configuration. A trap must be field provided prior to start-up on the cooling cycle.

Low Ambient Cooling

The Precedent™ line features, with ReliaTel™ microprocessor controls, low ambient cooling down to 0°F. The following features or options need to be included/considered when low ambient applications are required: continuous fan operation, crankcase heaters, thermal expansion valves, froststat.

Contact a local Trane® Representative for more assistance with low ambient cooling applications.

Unit Pitch

The unit has a reversible sloped condensate drain pans. The unit must be installed level. Any unit slope must be toward the side of unit where condensate drain is connected.



Selection Procedure

Cooling Capacity

Step 1.

Calculate the building's total and sensible cooling loads at design conditions. Use the Trane® calculation methods or any other standard accepted method.

Factors used in unit selection:

- Total Cooling Load: 71 MBh
- Sensible Cooling Load: 450 MBh
- Airflow: 2400 cfm
- Electrical Characteristics: 460/60/3
- Summer Design Conditions: Entering
- Evaporator Coil: 80 DB, 67 WB Outdoor Ambient: 95
- External Static Pressure: 0.47 in. wg
- Downflow Configuration
- Economizer

Step 2.

As a starting point, a rough determination must be made of the size of the unit. The final selection will be made after examining the performance at the given conditions. Divide the total cooling load by nominal BTUH per ton (12 MBh per ton); then round up to the nearest unit size.

71 MBh / 12 MBh = approx. 6 tons

Step 3.

Table 7, p. 29 shows that a WSC072E4 has a **gross** cooling capacity of 78.01 MBh and 56.74 MBh sensible capacity at 2400 cfm and 95 DB outdoor ambient with 80 DB, 67 WB air entering the evaporator.

To Find Capacity at Intermediate Conditions not in the table.

When the design conditions are between two numbers that are in the capacity table, interpolation is required to approximate the capacity.

Note: Extrapolation outside of the table conditions is not recommended.

Step 4.

In order to select the correct unit which meets the building's requirements, the fan motor heat must be deducted from the gross cooling capacity. The amount of heat that the fan motor generates is dependent on the effort by the motor - cfm and static pressure. To determine the total unit static pressure:

External Static Duct System	0.47 wg
Economizer from Table 29, p. 46 (100% Outside Air)	0.11 wg
Electric Heater Size 9 kW from Table 30, p. 47 (reference "Heating Capacity" section on this page for determination of heater size)	0.02 wg
Total Static Pressure	0.60 wg

With 2400 cfm and 0.60 wg, Table 16, p. 38 shows 0.75 bhp for this unit. Note below the table gives a formula to calculate Fan Motor Heat,

$$2.829 \times \text{bhp} + 0.4024 = \text{MBh}$$

$$2.829 \times 0.75 + 0.4024 = 2.98 \text{ MBh}$$

Now subtract the fan motor heat from the gross cooling capacity of the unit:

Net Total Cooling Capacity
= 78.0 MBh - 2.98 = 75.02 MBh

Net Sensible Cooling Capacity
= 56.74 MBh - 2.98 = 53.76 MBh

Step 5.

Compare results to original load requirements. If the performance will not meet the required total or sensible cooling load, try a selection at the next higher size unit.

Heating Capacity**Step 1.**

Calculate the building heating load using the Trane® calculation form or other standard accepted method.

Step 2.

Size the equipment using [Table 37, p. 52](#) to match the heating loads at design conditions.

Total heating load of 65 MBh

Outdoor Ambient (Winter): 17 DB

Indoor Return Temperature: 70 DB

Airflow: 2000 cfm

Use the integrated portion of [Table 37, p. 52](#) for the WSC072E to determine capacity at winter design conditions. The mechanical heating portion of the heat pump will provide 40.5 MBh.

Step 3.

Because 40.5 is less than the building's required heating capacity at winter design conditions, a supplementary heater must be selected.

$$65 \text{ MBh} - 40.5 \text{ MBh} = 19.5 \text{ MBh}$$

The auxiliary electric heat capacities are listed in [Table 30, p. 47](#). From the table, a 9 kW heater will deliver 30.73 MBh at 480 volts. In order to determine capacity at 460 volts, the heater voltage correction factor from [Table 31, p. 48](#) must be used. Therefore, $30.73 \text{ MBh} \times .918$ (voltage correction factor) = 28.2 MBh. A 9 kW heater should be selected.

Air Delivery Selection

External static pressure drop through the air distribution system has been calculated to be 0.60 inches of water. Enter [Table 29, p. 46](#) for a WSC072E4 at 2400 cfm and 0.60 static pressure. The belt drive motor will give the desired airflow at a rated bhp of 0.75 and 847 rpm.



Model Number Description - 3-10 Ton

W S C			1 2 0			E 4 R			0 A * *			
1	2	3	4	5	6	7	8	9	10	11	12	13
Digit 1 - Unit Type			Enthalpy 0-100% with Barometric Relief ⁵						Digit 22 - Refrigeration System Option			
W	Packaged Heat Pump ³		K Low Leak Economizer with Barometric Relief						0 Standard Refrigeration System ⁸			
Digit 2 - Efficiency			M Low Leak Economizer with Reference Enthalpy with Barometric Relief						Digit 23 - Refrigeration Controls			
S	Standard Efficiency		P Low Leak Economizer with Comparative Enthalpy with Barometric Relief						0 No Refrigeration Control ³			
Digit 3 - Airflow									1 Frostat™ 12			
C	Convertible								2 Crankcase Heater			
Digit 4,5,6 - Nominal Gross Cooling Capacity (MBh)									3 Frostat and Crankcase Heater ¹²			
036	3Ton		Digit 15 - Supply Fan/Drive Type/Motor						Digit 24 - Smoke Detector			
048	4Ton		0 Standard Drive ⁴						0 No Smoke Detector			
060	5Ton		1 Oversized Motor						A Return Air Smoke Detector ⁹			
072	6Ton		2 Optional Belt Drive Motor						B Supply Air Smoke Detector			
090	7½Ton, Single Compressor		6 Single Zone Variable Air Volume (SZVAV) ¹⁵						C Supply and Return Air Smoke Detectors ⁹			
120	10Ton		7 Multi-Speed Indoor Fan ¹³						D Plenum Smoke Detector			
Digit 7 - Major Design Sequence			Digit 16 - Hinged Service Access/ Filters						Digit 25 - System Monitoring Controls			
E	R-410A Refrigerant		0 Standard Panels/Standard Filters						0 No Monitoring Control			
Digit 8 - Voltage Selection			A Hinged Access Panels/Standard Filters						1 Clogged Filter Switch			
3	208-230/60/3		B Standard Panels/2" MERV 8 Filters						2 Fan Failure Switch			
4	460/60/3		C Hinged Access Panels/2" MERV 8 Filters						3 Discharge Air Sensing Tube			
W	575/60/3		D Standard Panels/2" MERV 13 Filters						4 Clogged Filter Switch and Fan Fail Switch			
Digit 9 - Unit Controls			E Hinged Access Panels/2" MERV 13 Filters						5 Clogged Filter Switch and Discharge Air Sensing Tube			
R	ReliaTel™ Microprocessor		Digit 17 - Condenser Coil Protection						6 Fan Fail Switch and Discharge Air Sensing Tube			
Digit 10 - Heating Capacity			0 Standard Coil						7 Clogged Filter and Fan Fail Switches and Discharge Air Sensing Tube			
0	No Electric Heat		1 Standard Coil with Hail Guard						A Condensate Drain Pan Overflow Switch			
A	5 kW (1 phase) ¹		2 Black Epoxy Pre-Coated Condenser Coil						B Clogged Filter Switch and Condensate Drain Pan Overflow Switch			
B	6 kW		3 Black Epoxy Pre-Coated Condenser Coil with Hail Guard						C Fan Failure Switch and Condensate Drain Pan Overflow Switch			
C	9 kW		Digit 18 - Through-the-Base Provisions						D Discharge Air Sensing and Condensate Drain Pan Overflow Switch			
E	12 kW		0 No Through-the-Base Provisions						E Clogged Filter Switch, Fan Failure Switch and Condensate Drain Pan Overflow Switch			
G	18 kW		A Through-the-Base Electric ⁶						F Clogged Filter Switch, Discharge Air Sensing Tube and Condensate Drain Pan Overflow Switch			
J	23 kW		Digit 19 - Disconnect/Circuit Breaker (three-phase only)						G Fan Failure Switch, Discharge Air Sensing Tube and Condensate Drain Pan Overflow Switch			
K	27 kW		0 No Disconnect/No Circuit Breaker						H Clogged Filter Switch, Fan Failure Switch, Discharge Air Sensing and Condensate Drain Pan Overflow Switch			
N	36 kW		1 Unit Mounted Non-Fused Disconnect ⁶									
P	54 kW		2 Unit Mounted Circuit Breaker ⁶									
Digit 11 - Minor Design Sequence			Digit 20 - Convenience Outlet									
A	First Sequence		0 No Convenience Outlet									
Digit 12,13 - Service Sequence			A Unpowered Convenience Outlet									
**	Factory Assigned		B Powered Convenience Outlet (three-phase only) ⁷									
Digit 14 - Fresh Air Selection			Digit 21 - Communications Options									
0	No Fresh Air		0 No Communications Interface									
A	Manual Outside Air Damper 0-50% ²		1 Trane® Communications Interface									
B	Motorized Outside Air Damper 0-50% ¹¹		2 LonTalk® Communications Interface									
C	Economizer, Dry Bulb 0-100% without Barometric Relief ⁵		6 BACnet® Communications Interface									
D	Economizer, Dry Bulb 0-100% with Barometric Relief ⁵											
E	Economizer, Reference Enthalpy 0-100% without Barometric Relief ⁵											
F	Economizer, Reference Enthalpy 0-100% with Barometric Relief ⁵											
G	Economizer, Comparative Enthalpy 0-100% without Barometric Relief ⁵											
H	Economizer, Comparative											

Model Number Description - 3-10 Ton

Digit 26 - System Monitoring Controls

- 0 No Monitoring Controls
- A Demand Control Ventilation (CO₂)¹⁴
- B Low Leak Economizer with FDD (Fault Detection & Diagnostics)
- C FDD (Fault Detection & Diagnostics) with DCV (Demand Control Ventilation)

Digit 27 - Unit Hardware Enhancements

- 0 No Enhancements
- 1 Stainless Steel Drain Pan

Digit 31 - Advanced Unit Controls

- 0 Standard Unit Controls
- 1 Human Interface

Model Number Notes

1. Available on 3-5 ton models.
2. Manual outside air damper will ship factory supplied within the unit, but must be field installed.
3. High pressure control is standard on all units.
4. Belt drive standard on 3-7½ ton. Variable speed direct drive standard on 10 ton.
5. Economizer with Barometric Relief is for downflow configured units only. Order Economizer without Barometric Relief for horizontal configuration. Barometric Relief for horizontal configured units must be ordered as field installed accessory.
6. Through-the-base electric required when ordering disconnect/circuit breaker options.
7. Requires use of Disconnect or Circuit Breaker.
8. Standard metering devices are TXVs.
9. The return air smoke detector may not fit up or work properly on the Precedent™ units when used in conjunction with 3rd party accessories such as bolt on heat wheels, economizers and power exhaust. Do not order the return air smoke detectors when using this type of accessory.

10. Requires hinged access panels.
11. Motorized outside air damper is not available on Multi-Speed or SZVAV (Single Zone Variable Air Volume) products.
12. Froststat™ standard on Multi-speed and SZVAV (Single Zone Variable Air Volume) products.
13. Multi-speed indoor fan only available on 10 ton products.
14. Demand Control Ventilation Option includes wiring only. The CO₂ sensor is a field-installed only option.
15. SZVAV available only on 10 ton standard efficiency unit.

General Data

Table 1. General data - 3-4 tons - standard efficiency

	3 Tons	4 Tons
	WSC036E3,4,W	WSC048E3,4,W
Cooling Performance^(a)		
Gross Cooling Capacity	38,030	50,130
SEER ^(b)	13.0	13.0
Nominal cfm/AHRI Rated cfm	1,200/1,200	1,600/1,600
AHRI Net Cooling Capacity	37,000	48,500
System Power (kW)	3.45	4.40
Heating Performance^(c)		
High Temp. Btuh Rating	37,000	44,000
System Power kW/COP	3.21/3.40	3.86/3.40
Low Temp. Btuh Rating	20,600	24,800
System Power kW/COP	2.85/2.10	3.53/2.10
HSPF (Btu/Watts-hr)	8.00	7.80
Compressor		
Number/Type	1/Scroll	1/Scroll
Sound		
Outdoor Sound Rating (dB) ^(d)	80	82
Outdoor Coil - Type	Lanced	Lanced
Tube Size (in.)	0.3125	0.3125
Face Area (sq. ft.)	10.96	10.96
Rows/FPI	3/16	3/16
Refrigerant Control	Thermal Expansion Valve	Thermal Expansion Valve
Indoor Coil - Type	Lanced	Lanced
Tube Size (in.)	0.3125	0.3125
Face Area (sq. ft.)	6.68	7.71
Rows/FPI	3/16	4/16
Refrigerant Control	Thermal Expansion Valve	Thermal Expansion Valve
Drain Connection Number/Size (in.)	1 3/4 NPT	1 3/4 NPT
Outdoor Fan - Type	Propeller	Propeller
Number Used/Diameter (in.)	1/22	1/22
Drive Type/No. Speeds	Direct/1	Direct/1
cfm	2,823	3,279
Motor hp	0.25	0.40
Motor rpm	1,075	1,075
Indoor Fan - Type (Standard)	FC Centrifugal	FC Centrifugal
Number Used/Diameter (in.)/Width (in.)	1/11x11	1/11x11
Drive Type/No. Speeds/rpm	Belt/Variable/1,750	Belt/Variable/1,750
Motor hp	1.0	1.0
Motor Frame Size	56	56
Filters^(e) - Type Furnished	Throwaway	Throwaway
Number Size Recommended	(2) 20x30x2	(2) 20x30x2

continued on next page

Table 1. General data - 3-4 tons - standard efficiency (continued)

	3 Tons	4 Tons
	WSC036E3,4,W	WSC048E3,4,W
Refrigerant Charge^(f)		
Pounds of R-410A	7.3	9.0

- (a) Cooling performance is rated at 95°F ambient, 80°F entering dry bulb, 67°F entering wet bulb. Gross capacity does not include the effect of fan motor heat. AHRI capacity is net and includes the effect of fan motor heat. Units are suitable for operation to ±20% of nominal cfm. Units are certified in accordance with the Unitary Air-Conditioner Equipment certification program, which is based on AHRI Standard 210/240.
- (b) EER and/or SEER are rated at AHRI conditions and in accordance with DOE test procedures.
- (c) Heating performance is rated at 47°F ambient with 43°F wet bulb, 70°F entering dry bulb, 60°F entering wet bulb. High Temp. Btuh Rating includes the effect of fan motor heat. Units are suitable for operation to ±20% of nominal cfm. Units are certified in accordance with the Unitary Air-Conditioner Equipment certification program, which is based on AHRI Standard 210/240.
- (d) Outdoor Sound Rating shown is tested in accordance with AHRI Standard 270. For additional information refer to [Table 28, p. 45](#).
- (e) Optional 2" MERV 8 and MERV 13 filters also available.
- (f) Refrigerant charge is an approximate value. For a more precise value, see unit nameplate and service instructions.

Table 2. General data - 5 tons - standard efficiency

	5 Tons
	WSC060E3,4,W
Cooling Performance^(a)	
Gross Cooling Capacity	63,440
SEER ^(b)	13.0
Nominal cfm/AHRI Rated cfm	2,000/2,000
AHRI Net Cooling Capacity	62,000
System Power (kW)	5.13
Heating Performance^(c)	
High Temp. Btuh Rating	58,500
System Power kW/COP	4.94/3.50
Low Temp. Btuh Rating	34,400
System Power kW/COP	4.44/2.30
HSPF (Btu/Watts-hr)	8.00
Compressor	
Number/Type	1/Scroll
Sound	
Outdoor Sound Rating (dB) ^(d)	87
Outdoor Coil - Type	Lanced
Tube Size (in.)	0.3125
Face Area (sq. ft.)	17.00
Rows/FPI	3/16
Refrigerant Control	Thermal Expansion Valve
Indoor Coil - Type	Lanced
Tube Size (in.)	0.3125
Face Area (sq. ft.)	9.27
Rows/FPI	3/16
Refrigerant Control	Thermal Expansion Valve
Drain Connection Number/Size (in.)	1 3/4 NPT

continued on next page

General Data

Table 2. General data - 5 tons - standard efficiency (continued)

	5 Tons
	WSC060E3,4,W
Outdoor Fan - Type	Propeller
Number Used/Diameter (in.)	1/26
Drive Type/No. Speeds	Direct/1
cfm	5,138
Motor hp	0.40
Motor rpm	1,075
Indoor Fan - Type (Standard)	FC Centrifugal
Number Used/Diameter (in.)/Width (in.)	1/11x11
Drive Type/No. Speeds/rpm	Belt/Variable/1,750
Motor hp	1.00
Motor Frame Size	56
Filters(e) - Type Furnished	Throwaway
Number Size Recommended	(4) 16x25x2
Refrigerant Charge(f)	
Pounds of R-410A	10.6

(a) Cooling performance is rated at 95°F ambient, 80°F entering dry bulb, 67°F entering wet bulb. Gross capacity does not include the effect of fan motor heat. AHRI capacity is net and includes the effect of fan motor heat. Units are suitable for operation to ±20% of nominal cfm. Units are certified in accordance with the Unitary Air-Conditioner Equipment certification program, which is based on AHRI Standard 210/240.

(b) EER and/or SEER are rated at AHRI conditions and in accordance with DOE test procedures.

(c) Heating performance is rated at 47°F ambient with 43°F wet bulb, 70°F entering dry bulb, 60°F entering wet bulb. High Temp. Btuh Rating includes the effect of fan motor heat. Units are suitable for operation to ±20% of nominal cfm. Units are certified in accordance with the Unitary Air-Conditioner Equipment certification program, which is based on AHRI Standard 210/240.

(d) Outdoor Sound Rating shown is tested in accordance with AHRI Standard 270. For additional information refer to [Table 28, p. 45](#).

(e) Optional 2" MERV 8 and MERV 13 filters also available.

(f) Refrigerant charge is an approximate value. For a more precise value, see unit nameplate and service instructions.

Table 3. General data - 6-10 tons - standard efficiency

	6 Tons	7½ Tons	10 Tons
	WSC072E3,4,W	WSC090E3,4,W	WSC120E3,4,W
Cooling Performance(a)			
Gross Cooling Capacity	78,000	94,000	126,000
EER(b)	11.4	11.1	11.2
Nominal cfm/AHRI Rated cfm	2,400/2,100	3,000/2,625	4,000/3,200
AHRI Net Cooling Capacity	75,000	89,000	118,000
IEER(c)	13.0	12.2	13.1
System Power (kW)	6.58	8.02	10.54
Heating Performance(d)			
High Temp. Btuh Rating	71,000	86,000	111,000
System Power kW/COP	5.95/3.50	7.41/3.40	9.04/3.60
Low Temp. Btuh Rating	39,000	48,000	69,000
System Power kW/COP	5.2/2.30	6.39/2.30	8.43/2.40
HSPF (Btu/Watts-hr)	—	—	—
Compressor			
Number/Type	1/Scroll	1/Scroll	2/Scroll
Sound			
Outdoor Sound Rating (dB)(e)	89	89	87

continued on next page

General Data

Table 3. General data - 6-10 tons - standard efficiency (continued)

	6 Tons	7½ Tons	10 Tons
	WSC072E3,4,W	WSC090E3,4,W	WSC120E3,4,W
Outdoor Coil - Type	Lanced	Lanced	Lanced
Configuration	Full Face	Full Face	Intertwined
Tube Size (in.)	0.3125	0.3125	0.3125
Face Area (sq. ft.)	17.00	19.83	25.56
Rows/FPI	3/16	3/16	3/16
Refrigerant Control	Thermal Expansion Valve	Thermal Expansion Valve	Thermal Expansion Valve
Indoor Coil - Type	Lanced	Lanced	Lanced
Configuration	Full Face	Full Face	Intertwined
Tube Size (in.)	0.3125	0.3125	0.3125
Face Area (sq. ft.)	9.89	12.36	16.65
Rows/FPI	4/16	3/16	4/16
Refrigerant Control	Orifice	Orifice	Orifice
Drain Connection Number/Size (in.)	1 3/4 NPT	1 3/4 NPT	1 3/4 NPT
Outdoor Fan - Type	Propeller	Propeller	Propeller
Number Used/Diameter (in.)	1/26	1/26	1/30
Drive Type/No. Speeds	Direct/1	Direct/1	Direct/1
cfm	5,800	6,200	6,900
Motor hp	0.70	0.75	0.75
Motor rpm	1,100	1,100	1,100
Indoor Fan - Type	FC Centrifugal	FC Centrifugal	BC Plenum
Number Used/Diameter (in.)/Width (in.)	1/12x12	1/15 x 15	1/19.7 x 15
Drive Type/No. Speeds/rpm	Belt/Variable/1,750	Belt/Variable/1,750	Direct/Variable ^(f)
Motor hp (Standard/Oversized)	1.0/2.0	1.0/3.0	3.75/—
Motor Frame Size (Standard/Oversized)	56/56	56/56	—/—
Filters^(g) - Type Furnished	Throwaway	Throwaway	Throwaway
Number Size Recommended	(4) 16x25x2	(4) 20x25x2	(3) 20x25x2 (2) 20x30x2
Refrigerant Charge^(h)			
Pounds of R-410A	12.00	13.80	9.75/9.31

(a) Cooling performance is rated at 95°F ambient, 80°F entering dry bulb, 67°F entering wet bulb. Gross capacity does not include the effect of fan motor heat. AHRI capacity is net and includes the effect of fan motor heat. Units are suitable for operation to ±20% of nominal cfm. Units are certified in accordance with the Unitary Air-Conditioner Equipment certification program, which is based on AHRI Standard 340/360.

(b) EER and/or SEER are rated at AHRI conditions and in accordance with DOE test procedures.

(c) Integrated Efficiency Ratio (IEER) is rated in accordance with AHRI Standard 340/360. The IEER rating requires that the unit efficiency be determined at 100%, 75%, 50% and 25% load (net capacity) at the specified in AHRI Standard.

(d) Heating performance is rated at 47°F ambient with 43°F wet bulb, 70°F entering dry bulb, 60°F entering wet bulb. High Temp. Btuh Rating includes the effect of fan motor heat. Units are suitable for operation to ±20% of nominal cfm. Units are certified in accordance with the Unitary Air-Conditioner Equipment certification program, which is based on AHRI Standard 340/360.

(e) Outdoor Sound Rating shown is tested in accordance with AHRI Standard 270. For additional information refer to [Table 28, p. 45](#).

(f) For multispeed direct drive rpm WSC values, reference [Table 27, p. 45](#).

(g) Optional 2" MERV 8 and MERV 13 filters also available.

(h) Refrigerant charge is an approximate value. For a more precise value, see unit nameplate and service instructions.

Performance Data

Table 4. Gross cooling capacities 3 tons standard efficiency - three phase WSC036E3,4,W

		Ambient Temperature																	
		85						95						105					
Air Flow cfm	Ent DB (F)	Entering Wet Bulb																	
		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
960	75	35.1	27.1	38.8	19.7	42.7	12.3	32.4	25.4	35.9	18.2	39.6	10.7	29.6	23.8	32.9	16.7	36.3	9.1
960	80	35.6	33.0	39.2	25.4	43.2	17.7	33.0	31.6	36.3	23.9	40.1	16.7	30.3	30.1	33.3	22.4	36.8	15.2
960	85	37.2	37.2	39.7	31.0	43.6	23.7	34.8	34.8	36.8	29.3	40.4	22.3	32.3	32.3	33.7	27.8	37.2	20.7
960	90	39.5	39.5	40.3	36.8	44.0	29.3	37.0	37.0	37.4	35.6	40.8	27.7	34.4	34.4	34.5	34.2	37.5	25.9
1080	75	36.1	28.9	39.8	21.0	43.6	12.3	33.3	27.4	36.8	19.2	40.4	10.7	30.4	25.8	33.6	17.9	37.1	9.1
1080	80	36.9	35.9	40.2	27.0	44.2	19.2	34.2	34.1	37.3	25.5	41.0	17.6	31.6	31.6	34.1	23.9	37.6	15.8
1080	85	38.9	38.9	40.7	33.3	44.6	25.0	36.4	36.4	37.8	31.8	41.4	23.8	33.8	33.8	34.6	30.3	38.0	22.2
1080	90	41.3	41.3	41.6	40.5	45.1	31.1	38.7	38.7	38.8	38.6	41.9	29.7	36.0	36.0	36.0	36.0	38.4	28.0
1200	75	36.9	30.9	40.6	21.8	44.4	12.4	34.1	29.4	37.5	20.3	41.2	10.8	31.1	28.0	34.3	18.8	37.7	9.3
1200	80	38.0	37.9	41.1	28.7	45.0	19.7	35.4	35.4	38.0	27.3	41.7	18.3	32.7	32.7	34.7	25.6	38.2	16.8
1200	85	40.4	40.4	41.7	35.7	45.5	26.8	37.8	37.8	38.7	34.5	42.1	24.9	35.0	35.0	35.5	33.2	38.6	23.4
1200	90	42.9	42.9	42.9	42.9	46.0	33.3	40.3	40.3	40.2	40.2	42.6	31.7	37.3	37.3	37.3	37.3	39.1	30.1
1320	75	37.6	32.9	41.3	22.9	45.1	12.5	34.8	31.6	38.1	21.3	41.8	11.0	31.7	30.1	34.8	19.7	38.2	9.4
1320	80	39.2	39.2	41.9	30.4	45.7	20.8	36.6	36.6	38.7	28.9	42.3	19.2	33.7	33.7	35.4	27.2	38.7	17.4
1320	85	41.8	41.8	42.5	38.5	46.2	27.9	39.0	39.0	39.4	37.2	42.8	26.4	36.1	36.1	36.3	35.8	39.2	24.8
1320	90	44.4	44.4	44.3	44.3	46.7	35.2	41.5	41.5	41.5	41.5	43.3	33.7	38.5	38.5	38.5	38.5	39.8	32.3
1440	75	38.4	35.1	41.9	23.9	45.7	12.7	35.4	33.7	38.6	22.3	42.3	11.2	32.4	31.9	35.2	20.6	38.7	9.3
1440	80	40.3	40.3	42.5	32.1	46.3	21.6	37.6	37.6	39.2	30.4	42.8	20.0	34.6	34.6	35.8	29.0	39.1	18.3
1440	85	42.9	42.9	43.3	41.2	46.9	29.3	40.1	40.1	40.3	39.7	43.3	27.8	37.1	37.1	37.1	37.0	39.7	26.4
1440	90	45.6	45.6	45.5	45.5	47.5	37.3	42.6	42.6	42.6	42.6	44.0	35.9	39.5	39.5	39.5	39.5	40.4	34.9

		Ambient Temperature																	
		115						125											
Air Flow cfm	Ent DB (F)	Entering Wet Bulb																	
		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
960	75	26.6	22.2	29.7	15.2	32.9	7.5	23.2	20.3	25.7	14.4	29.4	5.4						
960	80	27.6	27.6	30.1	20.7	33.4	13.7	24.4	24.1	26.1	19.9	29.2	12.6						
960	85	29.6	29.6	30.5	26.3	33.7	19.2	25.9	25.9	27.0	24.6	29.3	18.9						
960	90	31.7	31.7	31.7	31.7	34.1	24.4	28.2	28.2	28.2	28.2	29.9	24.3						
1080	75	27.3	24.4	30.4	16.3	33.6	7.6	24.1	21.2	26.3	15.2	29.9	5.9						
1080	80	28.8	28.8	30.7	22.3	34.0	14.3	25.3	25.3	26.9	20.9	29.8	13.3						
1080	85	31.0	31.0	31.4	29.1	34.4	20.3	27.0	27.0	27.9	25.7	30.1	19.8						
1080	90	33.1	33.1	33.1	33.1	34.8	26.4	29.3	29.3	29.3	29.3	30.9	25.5						
1200	75	28.0	26.6	30.9	17.1	34.1	7.8	24.7	22.1	26.9	15.8	30.2	6.4						
1200	80	29.9	29.9	31.4	24.0	34.6	15.0	26.2	26.2	27.6	21.7	30.3	14.0						
1200	85	32.1	32.1	32.2	31.8	35.0	21.7	28.0	28.0	28.8	26.7	30.8	20.7						
1200	90	34.3	34.3	34.3	34.3	35.5	28.5	30.3	30.3	30.3	30.3	31.7	26.4						
1320	75	28.7	28.3	31.4	18.0	34.6	8.0	25.3	22.8	27.3	16.3	30.5	6.7						
1320	80	30.8	30.8	31.9	25.7	35.0	15.8	26.9	26.9	28.2	22.4	30.7	14.5						
1320	85	33.1	33.1	33.1	33.0	35.5	23.2	29.2	29.2	29.5	27.6	31.3	21.3						
1320	90	35.3	35.3	35.3	35.3	36.1	31.1	31.1	31.1	31.1	31.1	32.4	27.3						
1440	75	29.3	29.2	31.8	19.0	34.9	7.9	25.7	23.4	27.5	16.7	30.6	6.9						
1440	80	31.6	31.6	32.4	27.6	35.4	16.5	27.5	27.5	28.6	23.0	31.0	14.8						
1440	85	33.9	33.9	33.9	33.9	35.9	24.6	29.7	29.7	30.0	28.4	31.7	21.9						
1440	90	36.2	36.2	36.2	36.2	36.6	33.8	31.8	31.8	31.8	31.8	32.9	28.1						

Note:

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

Performance Data

Table 5. Gross cooling capacities 4 tons standard efficiency - three phase WSC048E3,4,W

		Ambient Temperature																	
		85						95						105					
Air Flow cfm	Ent DB (F)	Entering Wet Bulb																	
		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
1280	75	46.0	36.6	50.9	26.8	56.1	17.4	42.7	34.8	47.4	25.2	52.4	15.6	39.2	32.9	43.8	23.5	48.6	13.3
1280	80	46.6	44.0	51.4	34.6	56.7	24.6	43.4	41.8	47.9	32.9	53.0	22.9	40.1	39.2	44.2	31.0	49.1	21.3
1280	85	48.3	48.3	51.9	42.2	57.2	32.1	45.5	45.5	48.4	40.3	53.4	30.5	42.5	42.5	44.8	38.4	49.6	28.8
1280	90	51.3	51.3	52.6	49.6	57.7	39.8	48.4	48.4	49.2	47.4	53.9	38.0	45.4	45.4	45.7	44.8	50.0	36.0
1440	75	47.2	39.3	52.1	28.6	57.4	17.1	43.8	37.4	48.6	26.7	53.6	15.3	40.3	35.5	44.8	24.9	49.6	13.9
1440	80	48.1	46.7	52.7	37.0	57.9	25.7	44.8	44.2	49.1	35.2	54.2	24.1	41.5	41.5	45.3	33.4	50.1	22.3
1440	85	50.6	50.6	53.3	45.5	58.5	34.0	47.6	47.6	49.7	43.6	54.7	32.5	44.4	44.4	45.9	41.8	50.7	30.7
1440	90	53.7	53.7	54.3	52.7	59.0	42.4	50.6	50.6	50.9	50.2	55.2	41.0	47.4	47.4	47.4	47.4	51.2	39.3
1600	75	48.3	42.0	53.2	29.9	58.5	18.1	44.8	40.0	49.5	28.2	54.6	16.3	41.2	37.9	45.6	26.1	50.5	14.7
1600	80	49.5	49.0	53.8	39.4	59.0	26.3	46.2	46.2	50.1	37.6	55.1	24.4	43.0	43.0	46.3	35.8	51.1	23.6
1600	85	52.5	52.5	54.5	48.8	59.6	36.1	49.4	49.4	50.8	46.8	55.7	34.5	46.1	46.1	47.0	44.5	51.6	32.8
1600	90	55.8	55.8	55.8	55.4	60.2	45.6	52.5	52.5	52.5	52.5	56.2	44.0	49.2	49.2	49.2	49.2	52.0	42.2
1760	75	49.3	44.5	54.1	31.1	59.4	19.0	45.7	42.3	50.3	29.6	55.4	16.5	42.0	39.9	46.3	27.5	51.2	14.5
1760	80	50.8	50.8	54.7	41.8	60.0	28.4	47.7	47.7	51.0	39.9	55.9	26.5	44.4	44.4	47.0	38.0	51.8	24.5
1760	85	54.2	54.2	55.5	51.7	60.5	38.3	51.0	51.0	51.9	49.3	56.5	36.7	47.6	47.6	48.0	46.5	52.4	35.0
1760	90	57.6	57.6	57.5	57.5	61.2	48.7	54.2	54.2	54.2	54.2	57.1	46.9	50.8	50.8	50.8	50.8	52.9	45.3
1920	75	50.1	46.6	54.9	32.7	60.2	19.3	46.5	44.2	51.0	31.0	56.1	18.2	42.8	41.4	46.9	29.0	51.9	14.7
1920	80	52.2	52.2	55.5	44.1	60.8	29.6	49.0	49.0	51.7	42.3	56.6	27.4	45.6	45.6	47.6	40.3	52.4	25.6
1920	85	55.7	55.7	56.5	53.9	61.3	40.3	52.4	52.4	52.8	51.2	57.2	38.9	48.9	48.9	49.1	48.5	53.0	37.1
1920	90	59.2	59.2	59.1	59.1	62.0	51.7	55.7	55.7	55.7	55.7	58.0	50.0	52.2	52.2	52.1	52.1	53.7	48.1

		Ambient Temperature											
		115						125					
Air Flow cfm	Ent DB (F)	Entering Wet Bulb											
		61		67		73		61		67		73	
		MBh	SHC	MBh	SHC	MBh	SHC	MBh	SHC	MBh	SHC	MBh	SHC
1280	75	35.6	30.8	39.9	21.6	44.5	11.3	31.7	28.0	35.3	20.7	40.5	9.3
1280	80	36.7	36.6	40.4	29.1	45.0	19.5	33.3	33.0	35.9	27.9	40.3	18.7
1280	85	39.4	39.4	40.9	36.6	45.4	27.0	35.3	35.3	37.1	33.9	40.6	26.9
1280	90	42.1	42.1	42.2	42.1	45.9	34.4	38.8	38.8	38.8	38.8	41.4	33.9
1440	75	36.6	33.5	40.8	23.0	45.4	12.1	32.9	29.3	36.2	21.8	41.3	10.3
1440	80	38.3	38.3	41.3	31.4	45.9	20.6	34.6	34.6	37.0	29.3	41.2	19.8
1440	85	41.1	41.1	42.0	39.6	46.4	29.0	36.8	36.8	38.4	35.5	41.7	28.2
1440	90	44.0	44.0	44.0	44.0	46.9	37.4	40.3	40.3	40.3	40.3	42.7	35.5
1600	75	37.4	35.5	41.5	24.4	46.1	12.9	33.8	30.5	37.0	22.8	41.8	11.0
1600	80	39.7	39.7	42.1	33.8	46.7	21.6	35.7	35.7	38.0	30.4	42.0	20.7
1600	85	42.7	42.7	43.1	41.7	47.2	31.1	38.2	38.2	39.5	36.9	42.6	29.4
1600	90	45.7	45.7	45.6	45.6	47.7	40.4	41.6	41.6	41.6	41.6	43.8	36.9
1760	75	38.3	37.1	42.2	25.9	46.8	13.0	34.6	31.5	37.6	23.6	42.2	11.5
1760	80	40.9	40.9	42.8	36.1	47.3	22.8	36.7	36.7	38.8	31.4	42.6	21.5
1760	85	44.0	44.0	44.1	43.7	47.9	33.0	39.3	39.3	40.5	38.1	43.4	30.3
1760	90	47.1	47.1	47.1	47.1	48.6	43.5	42.8	42.8	42.8	42.8	44.8	38.1
1920	75	39.1	38.6	42.7	27.2	47.3	13.0	35.3	32.3	38.0	24.1	42.5	11.8
1920	80	42.0	42.0	43.4	38.4	47.9	24.0	37.5	37.5	39.4	32.2	43.0	22.1
1920	85	45.2	45.2	45.2	45.2	48.4	35.3	40.4	40.4	41.3	39.1	44.0	31.1
1920	90	48.4	48.4	48.4	48.4	49.3	45.9	43.8	43.8	43.8	43.8	45.6	39.0

Note:

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

Performance Data

Table 6. Gross cooling capacities 5 tons standard efficiency - three phase WSC060E3,4,W

		Ambient Temperature																	
		85						95						105					
Air Flow cfm	Ent DB (F)	Entering Wet Bulb																	
		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
1600	75	58.1	46.4	64.5	34.7	71.1	21.6	54.2	44.2	60.3	32.2	66.6	19.7	50.1	41.9	55.8	30.1	61.9	17.7
1600	80	59.1	56.6	64.9	43.7	71.9	32.1	55.4	54.9	60.7	41.7	67.4	30.1	51.6	51.6	56.3	39.5	62.6	27.5
1600	85	62.2	62.2	65.6	53.0	72.4	40.8	58.7	58.7	61.4	50.9	67.8	39.1	55.1	55.1	57.0	48.7	63.0	36.7
1600	90	65.9	65.9	66.6	63.2	72.9	50.2	62.4	62.4	62.6	61.9	68.3	48.2	58.6	58.6	58.6	58.6	63.6	46.0
1800	75	59.6	49.6	66.0	35.9	72.6	21.9	55.6	47.4	61.6	34.4	68.0	20.0	51.5	45.3	57.1	31.8	63.2	18.0
1800	80	61.1	61.0	66.5	46.6	73.5	33.7	57.5	57.5	62.2	44.4	68.9	31.7	53.8	53.8	57.7	42.3	63.9	29.1
1800	85	64.9	64.9	67.3	57.1	73.9	43.3	61.3	61.3	63.0	55.0	69.2	41.3	57.5	57.5	58.6	53.1	64.3	39.3
1800	90	68.9	68.9	69.0	68.9	74.7	53.8	65.2	65.2	65.1	65.1	69.9	51.7	61.3	61.3	61.2	61.2	65.1	49.6
2000	75	61.0	52.9	67.1	37.7	74.0	22.1	56.9	50.8	62.7	35.8	69.2	20.2	52.7	49.0	58.0	33.5	64.2	18.5
2000	80	63.2	63.2	67.8	49.4	74.9	35.2	59.6	59.6	63.4	47.2	70.0	32.6	55.7	55.7	58.8	45.1	64.9	31.1
2000	85	67.4	67.4	68.9	61.3	75.3	45.9	63.6	63.6	64.5	59.6	70.5	43.7	59.6	59.6	60.0	58.3	65.5	41.7
2000	90	71.5	71.5	71.4	71.4	76.1	57.2	67.7	67.7	67.5	67.5	71.3	55.1	63.5	63.5	63.4	63.4	66.3	52.8
2200	75	62.2	56.4	68.3	39.6	75.1	22.4	58.1	54.6	63.7	37.2	70.3	20.5	53.8	52.8	58.9	35.1	65.1	18.5
2200	80	65.2	65.2	69.0	52.1	75.9	36.8	61.4	61.4	64.4	49.9	71.0	33.9	57.4	57.4	59.7	47.8	65.8	31.8
2200	85	69.5	69.5	70.3	66.1	76.5	48.3	65.6	65.6	66.1	64.8	71.5	46.0	61.4	61.4	61.4	61.4	66.5	44.1
2200	90	73.8	73.8	73.8	73.8	77.4	60.7	69.8	69.8	69.7	69.7	72.5	58.6	65.5	65.5	65.4	65.4	67.4	56.7
2400	75	63.4	60.2	69.0	40.9	76.0	22.7	59.2	58.3	64.5	38.8	71.1	20.7	54.9	54.8	59.6	36.7	65.9	18.7
2400	80	66.9	66.9	70.1	54.9	76.8	37.2	63.0	63.0	65.4	52.8	71.8	35.9	58.9	58.9	60.6	50.8	66.6	33.6
2400	85	71.3	71.3	71.8	70.9	77.6	50.5	67.3	67.3	67.4	67.3	72.5	48.6	63.0	63.0	63.0	63.0	67.3	46.3
2400	90	75.9	75.9	75.8	75.8	78.6	64.3	71.7	71.7	71.6	71.6	73.6	62.5	67.2	67.2	67.2	67.2	68.5	60.9

		Ambient Temperature											
		115						125					
Air Flow cfm	Ent DB (F)	Entering Wet Bulb											
		61		67		73		61		67		73	
		MBh	SHC	MBh	SHC	MBh	SHC	MBh	SHC	MBh	SHC	MBh	SHC
1600	75	45.8	39.7	51.2	27.9	56.9	15.9	41.0	36.4	45.2	26.9	51.6	12.1
1600	80	47.8	47.8	51.6	37.3	57.6	26.0	43.0	42.9	46.0	36.2	51.3	24.2
1600	85	51.2	51.2	52.4	46.7	57.9	34.6	45.6	45.6	47.5	44.0	51.7	34.8
1600	90	54.7	54.7	54.6	54.6	58.6	43.8	49.7	49.7	49.7	49.7	52.8	44.0
1800	75	47.1	43.2	52.2	29.6	58.0	16.1	42.4	38.2	46.4	28.4	52.6	13.3
1800	80	49.9	49.9	52.8	40.1	58.7	27.5	44.6	44.6	47.5	37.9	52.5	25.7
1800	85	53.4	53.4	53.9	51.7	59.1	37.2	47.5	47.5	49.2	46.0	53.2	36.5
1800	90	57.0	57.0	57.0	57.0	59.9	47.2	51.7	51.7	51.7	51.7	54.5	45.9
2000	75	48.3	47.2	53.2	31.5	58.9	16.3	43.6	39.7	47.3	29.6	53.3	14.3
2000	80	51.6	51.6	53.8	42.8	59.6	28.9	46.1	46.1	48.7	39.4	53.5	26.9
2000	85	55.3	55.3	55.4	55.3	60.2	39.5	49.3	49.3	50.7	47.7	54.4	38.0
2000	90	59.1	59.1	59.1	59.1	61.0	50.8	53.4	53.4	53.4	53.4	56.0	47.6
2200	75	49.4	49.4	53.9	33.2	59.7	16.2	44.6	41.0	48.1	30.6	53.8	15.0
2200	80	53.1	53.1	54.7	45.7	60.4	29.7	47.4	47.4	49.7	40.7	54.3	27.9
2200	85	57.0	57.0	56.9	56.9	61.0	41.9	50.8	50.8	52.0	49.2	55.4	39.2
2200	90	60.9	60.9	60.9	60.9	62.1	54.9	54.9	54.9	54.9	54.9	57.3	49.1
2400	75	50.5	50.5	54.5	34.3	60.3	16.3	45.4	42.0	48.7	31.4	54.1	15.5
2400	80	54.4	54.4	55.6	48.9	61.0	30.8	48.4	48.4	50.5	41.7	54.9	28.6
2400	85	58.5	58.5	58.4	58.4	61.8	44.3	52.1	52.1	53.0	50.5	56.3	40.2
2400	90	62.5	62.5	62.5	62.5	63.1	59.7	56.2	56.2	56.2	56.2	58.3	50.3

Note:

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

Performance Data

Table 7. Gross cooling capacities 6 tons standard efficiency - three phase WSC072E3,4,W

		Ambient Temperature																	
		85						95						105					
Air Flow cfm	Ent DB (F)	Entering Wet Bulb																	
		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
1920	75	73.8	58.3	77.6	43.5	82.0	21.8	69.5	55.2	73.4	41.4	78.1	20.5	64.2	51.5	68.4	38.5	73.3	18.6
1920	80	75.9	67.3	78.9	55.7	82.6	37.0	71.7	64.4	75.0	53.6	78.9	35.8	66.6	60.7	70.1	50.8	74.3	33.9
1920	85	78.4	74.4	80.7	65.8	83.6	50.1	74.4	71.5	76.9	63.7	80.1	49.0	69.5	67.9	72.3	61.0	75.7	47.1
1920	90	81.4	79.4	82.9	73.8	85.2	61.2	77.6	76.6	79.4	71.8	81.9	60.1	72.9	72.9	74.9	69.2	77.6	58.4
2160	75	75.6	60.0	79.0	44.8	83.0	22.6	71.4	57.1	75.0	42.8	79.2	21.4	66.3	53.5	70.1	40.0	74.6	19.6
2160	80	77.8	69.4	80.4	57.2	83.7	38.0	73.8	66.5	76.6	55.2	80.2	36.9	68.9	63.0	72.0	52.6	75.7	35.1
2160	85	80.5	76.7	82.4	67.6	84.9	51.4	76.6	73.9	78.8	65.6	81.6	50.3	71.9	70.5	74.3	63.0	77.3	48.6
2160	90	83.6	82.0	84.8	75.9	86.6	62.8	80.0	79.2	81.4	74.0	83.4	61.8	75.4	75.4	77.1	71.5	79.4	60.1
2400	75	77.1	61.7	80.0	46.0	83.6	23.3	73.0	58.9	76.2	44.0	80.0	22.2	68.1	55.4	71.5	41.4	75.6	20.5
2400	80	79.4	71.3	81.6	58.6	84.5	39.0	75.5	68.6	78.0	56.7	81.1	37.9	70.8	65.2	73.5	54.2	76.8	36.3
2400	85	82.2	78.9	83.7	69.2	85.9	52.6	78.6	76.2	80.3	67.4	82.7	51.6	74.0	72.9	75.9	64.9	78.6	50.0
2400	90	85.5	84.4	86.3	77.8	87.7	64.2	82.0	81.8	83.0	76.0	84.7	63.3	77.6	77.6	78.9	73.6	80.8	61.8
2640	75	78.2	63.3	80.7	47.1	83.9	23.8	74.3	60.6	77.1	45.2	80.5	22.8	69.5	57.2	72.5	42.7	76.2	21.2
2640	80	80.7	73.1	82.5	59.9	85.0	39.8	77.0	70.5	79.0	58.2	81.7	38.8	72.4	67.2	74.7	55.7	77.6	37.3
2640	85	83.6	81.0	84.7	70.8	86.5	53.6	80.1	78.4	81.4	69.1	83.4	52.8	75.7	75.1	77.3	66.7	79.5	51.3
2640	90	87.1	86.7	87.4	79.6	88.4	65.5	83.7	83.7	84.3	78.0	85.6	64.7	79.5	79.5	80.3	75.7	81.8	63.3
2880	75	79.0	64.7	81.1	48.0	83.9	24.3	75.3	62.1	77.6	46.2	80.7	23.4	70.6	58.8	73.2	43.8	76.5	21.9
2880	80	81.6	74.8	83.0	61.1	85.1	40.4	78.1	72.3	79.7	59.5	82.0	39.6	73.6	69.1	75.5	57.1	78.0	38.2
2880	85	84.7	82.9	85.4	72.2	86.8	54.6	81.4	80.4	82.3	70.6	83.9	53.8	77.1	77.1	78.3	68.4	80.1	52.5
2880	90	88.3	88.3	88.3	81.3	88.9	66.7	85.1	85.1	85.3	79.8	86.2	66.0	81.1	81.1	81.5	77.6	82.6	64.7
		Ambient Temperature																	
		115						125											
Air Flow cfm	Ent DB (F)	Entering Wet Bulb																	
		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
1920	75	58.0	47.2	62.5	35.1	67.6	16.0	51.0	42.2	55.7	31.0	61.0	12.8						
1920	80	60.6	56.5	64.4	47.4	68.8	31.4	53.8	51.6	57.7	43.4	62.4	28.2						
1920	85	63.7	63.7	66.7	57.7	70.4	44.7	57.1	57.1	60.3	53.8	64.2	41.6						
1920	90	67.3	67.3	69.6	66.0	72.5	56.0	62.7	62.7	63.3	62.1	66.5	53.0						
2160	75	60.3	49.3	64.3	36.7	69.1	17.1	53.4	44.4	57.7	32.7	62.6	14.0						
2160	80	63.0	58.9	66.4	49.3	70.4	32.7	56.3	54.1	59.9	45.4	64.1	29.7						
2160	85	66.3	66.3	68.9	59.8	72.1	46.3	59.7	59.7	62.6	56.0	66.1	43.3						
2160	90	70.0	70.0	71.9	68.3	74.4	57.8	65.1	65.1	65.7	64.6	68.5	54.9						
2400	75	62.2	51.3	65.9	38.2	70.2	18.1	55.4	46.5	59.3	34.3	63.9	15.1						
2400	80	65.1	61.1	68.0	51.0	71.6	34.0	58.5	56.4	61.7	47.2	65.5	31.0						
2400	85	68.5	68.5	70.7	61.8	73.5	47.8	62.1	62.1	64.5	58.1	67.6	44.9						
2400	90	72.4	72.4	73.8	70.6	75.9	59.6	67.2	67.2	67.9	66.9	70.2	56.8						
2640	75	63.8	53.2	67.0	39.6	71.0	19.0	57.2	48.5	60.7	35.8	64.8	16.0						
2640	80	66.9	63.2	69.4	52.7	72.5	35.1	60.4	58.7	63.2	48.9	66.6	32.2						
2640	85	70.4	70.4	72.2	63.7	74.6	49.2	64.2	64.2	66.2	60.1	68.9	46.4						
2640	90	74.4	74.4	75.4	72.7	77.2	61.2	68.9	68.9	69.6	69.2	71.6	58.5						
2880	75	65.1	54.9	67.9	40.8	71.4	19.7	58.6	50.4	61.7	37.1	65.4	16.9						
2880	80	68.3	65.3	70.4	54.2	73.2	36.1	62.0	60.8	64.4	50.6	67.4	33.4						
2880	85	71.9	71.9	73.3	65.5	75.4	50.4	65.9	65.9	67.5	61.9	69.8	47.8						
2880	90	76.0	76.0	76.7	74.8	78.0	62.7	71.1	71.1	71.1	71.1	72.6	60.2						

Note:

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



Performance Data

Table 8. Gross cooling capacities 7½ tons standard efficiency - three phase WSC090E3,4,W

		Ambient Temperature																	
		85						95						105					
Air Flow cfm	Ent DB (F)	Entering Wet Bulb																	
		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
2400	75	88.4	71.1	93.1	52.4	98.6	24.7	83.1	67.2	88.1	49.7	94.0	23.1	76.4	62.3	81.8	45.9	88.1	20.4
2400	80	91.1	82.4	94.8	67.6	99.4	43.9	86.1	78.8	90.2	65.2	95.2	42.6	79.8	74.2	84.2	61.7	89.6	40.2
2400	85	94.2	90.9	97.1	80.1	100.8	60.3	89.6	87.6	92.8	77.9	96.9	59.2	83.7	83.3	87.2	74.7	91.6	57.1
2400	90	98.0	96.5	99.9	89.6	102.6	73.8	93.7	93.6	96.0	87.8	99.1	73.0	88.1	88.1	90.7	84.8	94.2	71.2
2700	75	90.7	73.2	94.8	54.1	99.8	25.9	85.7	69.6	90.2	51.6	95.5	24.5	79.4	64.8	84.2	47.9	89.9	22.0
2700	80	93.5	84.8	96.6	69.5	100.7	45.3	88.8	81.4	92.3	67.3	96.7	44.2	82.8	77.0	86.7	63.9	91.5	42.0
2700	85	96.7	93.5	99.0	82.2	102.1	61.9	92.4	90.4	95.0	80.2	98.5	61.0	86.8	86.2	89.8	77.2	93.6	59.1
2700	90	100.6	99.4	101.9	92.0	104.1	75.6	96.6	96.6	98.3	90.3	100.9	75.1	91.3	91.3	93.4	87.5	96.3	73.4
3000	75	92.6	75.3	96.1	55.7	100.5	27.0	87.9	71.8	91.8	53.3	96.5	25.8	81.9	67.3	86.1	49.9	91.2	23.4
3000	80	95.4	87.1	98.0	71.3	101.4	46.6	91.1	83.9	94.0	69.3	97.8	45.7	85.4	79.6	88.7	66.1	92.9	43.6
3000	85	98.8	96.0	100.4	84.2	103.0	63.4	94.8	93.1	96.8	82.4	99.7	62.8	89.5	89.1	91.8	79.5	95.1	61.0
3000	90	102.7	102.1	103.4	94.2	105.0	77.4	99.0	99.0	100.1	92.7	102.1	77.0	94.1	94.1	95.5	90.1	97.9	75.5
3300	75	93.9	77.3	96.9	57.1	100.7	28.0	89.6	74.0	92.9	55.0	97.0	26.9	83.9	69.6	87.5	51.7	92.1	24.8
3300	80	96.8	89.3	98.8	73.0	101.7	47.8	92.8	86.3	95.2	71.2	98.4	47.1	87.5	82.2	90.2	68.2	93.8	45.2
3300	85	100.3	98.4	101.4	86.1	103.3	64.8	96.6	95.7	98.1	84.5	100.4	64.4	91.7	91.7	93.5	81.8	96.1	62.8
3300	90	104.3	104.3	104.5	96.4	105.5	79.0	101.0	101.0	101.5	95.1	102.9	78.8	96.4	96.4	97.2	92.6	99.0	77.5
3600	75	94.8	79.1	97.2	58.5	100.4	28.9	90.8	76.0	93.5	56.5	97.1	28.0	85.4	71.8	88.5	53.4	92.4	26.0
3600	80	97.8	91.3	99.2	74.6	101.6	48.9	94.1	88.5	95.9	72.9	98.6	48.3	89.1	84.6	91.3	70.1	94.3	46.6
3600	85	101.4	100.7	101.9	87.9	103.3	66.2	98.0	98.0	98.9	86.5	100.6	65.9	93.4	93.4	94.6	84.0	96.7	64.4
3600	90	105.5	105.5	105.0	98.4	105.5	80.6	102.5	102.5	102.4	97.3	103.2	80.5	98.2	98.2	98.5	95.0	99.6	79.4

		Ambient Temperature																	
		115						125											
Air Flow cfm	Ent DB (F)	Entering Wet Bulb																	
		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
2400	75	68.4	56.2	74.2	40.9	80.8	16.6	59.1	49.1	65.2	34.9	72.2	11.7						
2400	80	72.1	68.4	77.0	57.0	82.7	36.6	63.2	61.5	68.3	51.3	74.4	32.0						
2400	85	76.4	76.4	80.3	70.3	85.1	53.8	67.8	67.8	72.0	64.8	77.1	49.4						
2400	90	81.2	81.2	84.1	80.7	88.0	68.2	75.5	75.5	76.2	75.5	80.4	64.1						
2700	75	71.7	59.0	76.9	43.2	82.9	18.3	62.7	52.0	68.2	37.3	74.6	13.6						
2700	80	75.5	71.4	79.7	59.5	84.9	38.6	66.8	64.7	71.4	53.9	76.9	34.1						
2700	85	79.8	79.8	83.1	73.0	87.4	56.0	71.5	71.5	75.2	67.7	79.8	51.8						
2700	90	84.7	84.7	87.1	83.6	90.4	70.6	78.7	78.7	79.5	78.6	83.2	66.7						
3000	75	74.5	61.6	79.1	45.3	84.6	20.0	65.8	54.8	70.8	39.6	76.6	15.4						
3000	80	78.4	74.2	82.1	61.8	86.6	40.4	70.1	67.7	74.1	56.4	79.0	36.1						
3000	85	82.8	82.8	85.6	75.5	89.2	58.1	74.8	74.8	77.9	70.4	81.9	54.1						
3000	90	87.8	87.8	89.6	86.4	92.3	72.9	81.5	81.5	82.3	81.6	85.4	69.1						
3300	75	76.8	64.1	80.8	47.3	85.7	21.5	68.5	57.5	72.8	41.8	78.1	17.1						
3300	80	80.8	76.9	83.9	64.1	87.9	42.2	72.8	70.6	76.2	58.8	80.6	38.1						
3300	85	85.3	85.3	87.5	78.0	90.5	60.0	77.7	77.7	80.2	73.0	83.6	56.2						
3300	90	90.4	90.4	91.6	89.1	93.7	75.1	83.8	83.8	84.7	84.4	87.1	71.5						
3600	75	78.7	66.5	82.1	49.2	86.4	22.9	70.6	60.0	74.4	43.9	79.1	18.7						
3600	80	82.8	79.6	85.3	66.2	88.6	43.8	75.1	73.4	77.9	61.1	81.7	39.9						
3600	85	87.4	87.4	88.9	80.3	91.4	61.9	80.0	80.0	81.9	75.6	84.8	58.3						
3600	90	92.2	92.2	93.2	91.7	94.7	77.2	86.5	86.5	86.5	86.5	88.4	73.8						

Note:

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

Performance Data

Table 9. Gross cooling capacities 10 tons standard efficiency - three phase WSC120E3,4,W

		Ambient Temperature																	
		85						95						105					
Air Flow cfm	Ent DB (F)	Entering Wet Bulb																	
		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
3200	75	117.3	95.4	124.8	73.0	133.6	38.6	110.1	90.3	117.9	69.5	127.0	36.7	101.7	84.2	109.7	65.0	119.1	33.9
3200	80	120.9	110.2	126.8	92.8	134.1	63.4	113.9	105.1	120.2	89.3	127.8	61.5	105.7	99.1	112.3	84.8	120.2	58.6
3200	85	125.4	121.7	129.8	109.2	135.6	84.8	118.7	116.5	123.5	105.7	129.6	82.9	110.8	110.5	115.8	101.2	122.3	80.0
3200	90	130.9	129.7	133.8	122.2	138.1	102.8	124.5	124.5	127.7	118.7	132.3	100.8	116.8	116.8	120.4	114.2	125.3	98.0
3600	75	120.9	98.7	127.6	75.2	135.6	39.7	113.9	93.8	120.8	71.9	129.2	38.0	105.6	88.0	112.9	67.6	121.5	35.4
3600	80	124.7	114.0	129.9	95.4	136.4	64.9	118.0	109.1	123.4	92.1	130.3	63.2	110.0	103.2	115.7	87.9	122.9	60.6
3600	85	129.5	125.9	133.2	112.3	138.2	86.8	123.1	121.0	127.0	109.0	132.4	85.1	115.3	115.1	119.6	104.7	125.2	82.4
3600	90	135.3	134.4	137.5	125.8	141.0	105.3	129.1	129.1	131.6	122.4	135.4	103.5	121.6	121.6	124.4	118.2	128.6	100.8
4000	75	123.8	101.7	129.6	77.1	136.9	40.5	116.9	97.0	123.1	74.0	130.7	39.0	108.8	91.4	115.3	69.9	123.2	36.5
4000	80	127.9	117.4	132.3	97.8	138.0	66.2	121.3	112.7	126.0	94.7	132.1	64.7	113.5	107.1	118.5	90.6	124.8	62.2
4000	85	133.0	129.8	135.9	115.1	140.1	88.5	126.7	125.1	129.9	112.0	134.4	87.0	119.1	119.1	122.6	107.9	127.5	84.5
4000	90	139.1	138.8	140.4	129.1	143.2	107.4	133.0	133.0	134.7	125.9	137.8	105.9	125.8	125.8	127.7	121.8	131.1	103.4
4400	75	125.9	104.4	131.0	78.6	137.5	40.9	119.3	99.9	124.7	75.7	131.4	39.6	111.4	94.5	117.0	71.9	124.1	37.4
4400	80	130.3	120.6	133.9	99.8	138.9	67.1	124.0	116.1	127.8	96.9	133.1	65.8	116.3	110.6	120.5	93.1	126.1	63.5
4400	85	135.7	133.4	137.8	117.6	141.3	89.9	129.6	128.9	132.0	114.7	135.8	88.5	122.3	122.3	124.9	110.8	129.0	86.3
4400	90	142.1	142.1	142.7	132.0	144.7	109.2	136.3	136.3	137.2	129.1	139.4	107.9	129.2	129.2	130.4	125.2	132.9	105.6
4800	75	127.4	106.8	131.7	79.9	137.4	41.1	120.9	102.5	125.5	77.2	131.5	40.0	113.2	97.2	118.1	73.6	124.4	38.0
4800	80	132.1	123.4	134.9	101.5	139.1	67.7	125.9	119.1	129.0	98.8	133.5	66.6	118.4	113.9	121.8	95.2	126.6	64.6
4800	85	137.8	136.7	139.1	119.8	141.8	90.9	131.8	131.8	133.4	117.1	136.4	89.8	124.7	124.7	126.6	113.4	129.9	87.8
4800	90	144.4	144.4	144.2	134.7	145.4	110.8	138.8	138.8	138.9	131.9	140.4	109.6	131.9	131.9	132.3	128.3	134.1	107.6
		Ambient Temperature																	
		115						125											
Air Flow cfm	Ent DB (F)	Entering Wet Bulb																	
		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
3200	75	91.9	77.3	100.3	59.6	110.0	30.1	80.9	69.4	89.6	53.3	99.6	25.4						
3200	80	96.3	92.1	103.1	79.4	111.4	54.8	85.6	84.2	92.7	73.1	101.2	50.1						
3200	85	101.6	101.6	106.9	95.8	113.7	76.2	91.1	91.1	96.8	89.5	103.8	71.4						
3200	90	107.9	107.9	111.7	108.8	117.0	94.1	101.9	101.9	101.9	101.9	107.4	89.4						
3600	75	96.1	81.2	103.6	62.5	112.6	31.8	85.2	73.5	93.1	56.4	102.4	27.3						
3600	80	100.7	96.4	106.8	82.7	114.2	57.0	90.2	88.7	96.5	76.6	104.3	52.5						
3600	85	106.3	106.3	110.9	99.5	116.8	78.8	96.0	96.0	100.9	93.4	107.2	74.3						
3600	90	112.9	112.9	116.0	113.0	120.4	97.2	106.3	106.3	106.3	106.3	111.0	92.7						
4000	75	99.5	84.8	106.2	64.9	114.4	33.2	88.8	77.3	95.9	59.1	104.4	28.9						
4000	80	104.4	100.5	109.7	85.6	116.4	58.8	94.1	93.0	99.6	79.7	106.6	54.5						
4000	85	110.3	110.3	114.1	102.9	119.3	81.1	100.2	100.2	104.3	97.0	109.8	76.8						
4000	90	117.2	117.2	119.5	116.8	123.2	100.0	110.0	110.0	110.0	110.0	114.0	95.6						
4400	75	102.2	88.1	108.2	67.1	115.6	34.2	91.7	80.8	98.0	61.4	105.7	30.1						
4400	80	107.4	104.3	111.9	88.3	117.8	60.4	97.2	97.0	102.0	82.6	108.2	56.2						
4400	85	113.6	113.6	116.6	106.0	121.0	83.1	103.7	103.7	107.0	100.3	111.7	79.0						
4400	90	121.1	121.1	122.3	120.4	125.2	102.4	113.0	113.0	113.0	113.0	116.2	98.3						
4800	75	104.2	91.1	109.4	69.0	116.0	35.0	93.9	84.0	99.4	63.5	106.3	31.1						
4800	80	109.7	107.7	113.4	90.6	118.5	61.6	99.7	99.7	103.7	85.1	109.1	57.7						
4800	85	116.2	116.2	118.4	108.8	122.0	84.8	106.5	106.5	109.0	103.3	112.9	80.8						
4800	90	123.1	123.1	124.4	123.7	126.5	104.6	115.2	115.2	115.2	115.2	117.7	100.6						

Note:

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

Evaporator Fan Performance

Table 10. Belt drive evaporator fan performance - 3 tons standard efficiency - WSC036E3,E4,EW downflow airflow

External Static Pressure (Inches of Water)																				
	.10		.20		.30		.40		.50		.60		.70		.80		.90		1.00	
cfm	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1-hp Standard Motor & Field Supplied Low Static Drive ^(a)											1-hp Standard Motor & Drive									
960	—	—	572	0.14	639	0.19	702	0.23	762	0.28	816	0.34	865	0.39	907	0.44	948	0.49	986	0.54
1080	—	—	608	0.18	672	0.23	731	0.27	785	0.33	840	0.38	890	0.44	937	0.50	979	0.56	1017	0.62
1200	572	0.18	645	0.23	707	0.28	762	0.33	814	0.38	864	0.44	913	0.50	961	0.57	1005	0.63	1046	0.70
1320	614	0.22	684	0.28	744	0.33	797	0.39	846	0.44	894	0.50	939	0.56	984	0.63	1028	0.70	1070	0.78
1440	656	0.27	723	0.34	781	0.40	833	0.46	881	0.52	925	0.58	969	0.64	1011	0.71	1053	0.78	1094	0.86

Continued

External Static Pressure (Inches of Water)										
	1.10		1.20		1.30		1.40		1.50	
cfm	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1-hp Standard Motor & Drive										
960	1022	0.59	1057	0.64	1092	0.69	1125	0.74	1157	0.79
1080	1053	0.67	1088	0.73	1121	0.79	1152	0.84	1184	0.90
1200	1084	0.77	1118	0.83	1152	0.89	1182	0.95	1213	1.01
1320	1110	0.85	1147	0.92	1182	1.00	1214	1.07	—	—
1440	1133	0.94	1170	1.01	1207	1.10	—	—	—	—
1-hp Standard Motor & Field Supplied High Static Drive ^(b)										

Notes:

1. For Standard Evaporator Fan Speed (rpm), reference [Table 22, p. 44](#).
2. Data includes pressure drop due to standard filters and wet coils. No accessories or options are included in pressure drop data.
3. Data does not include pressure drop due to reheat coil.
4. Refer to [Table 29, p. 46](#) to determine additional static pressure drop due to other options/accessories.
5. 1-hp Fan Motor Heat (MBh) = 2.7672 x Fan bhp + 0.4705.
6. Factory supplied motors, in equipment, are definite purpose motors, specifically designed and tested to operate 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.

(a) Field Supplied Fan Sheave AK71x3/4" required. Field Supplied Belt may be necessary.

(b) Field Supplied Fan Sheave AK41x3/4" required. Field Supplied Belt may be necessary.

Evaporator Fan Performance

Table 11. Belt drive evaporator fan performance - 3 tons standard efficiency - WSC036E3,E4,EW horizontal airflow

External Static Pressure (Inches of Water)																					
		.10		.20		.30		.40		.50		.60		.70		.80		.90		1.00	
cfm	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	
1-hp Standard Motor & Field Supplied Low Static Drive(a)											1-hp Standard Motor & Drive										
960	—	—	560	0.13	641	0.17	711	0.22	770	0.27	822	0.32	868	0.37	911	0.41	952	0.46	991	0.52	
1080	—	—	589	0.16	665	0.21	735	0.26	796	0.31	850	0.37	899	0.42	942	0.48	983	0.53	1021	0.58	
1200	551	0.15	622	0.19	691	0.24	758	0.30	820	0.36	875	0.42	925	0.48	971	0.54	1012	0.60	1052	0.66	
1320	592	0.19	657	0.24	720	0.29	783	0.35	843	0.41	899	0.47	950	0.54	997	0.60	1041	0.67	1081	0.74	
1440	634	0.24	695	0.29	753	0.34	810	0.40	867	0.46	922	0.53	974	0.60	1022	0.67	1066	0.75	1108	0.82	

Continued

External Static Pressure (Inches of Water)											
		1.10		1.20		1.30		1.40		1.50	
cfm	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm
1-hp Standard Motor & Drive											
960	1028	0.57	1064	0.62	1099	0.67	1133	0.73	1165	0.78	—
1080	1057	0.64	1093	0.70	1127	0.75	1160	0.81	1192	0.87	—
1200	1087	0.72	1123	0.78	1156	0.84	1189	0.90	1221	0.97	—
1320	1118	0.80	1153	0.87	1187	0.94	1218	1.00	—	—	—
1440	1146	0.89	1182	0.97	1217	1.04	—	—	—	—	—
1-hp Standard Motor & Field Supplied High Static Drive ^(b)											

Notes:

1. For Standard Evaporator Fan Speed (rpm), reference [Table 22, p. 44](#).
2. Data includes pressure drop due to standard filters and wet coils. No accessories or options are included in pressure drop data.
3. Data does not include pressure drop due to reheat coil.
4. Refer to [Table 29, p. 46](#) to determine additional static pressure drop due to other options/accessories.
5. 1-hp Fan Motor Heat (MBh) = 2.7672 x Fan bhp + 0.4705.
6. Factory supplied motors, in equipment, are definite purpose motors, specifically designed and tested to operate 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.

(a) Field Supplied Fan Sheave AK71x3/4" required. Field Supplied Belt may be necessary.

(b) Field Supplied Fan Sheave AK41x3/4" required. Field Supplied Belt may be necessary.

Evaporator Fan Performance

Table 12. Belt drive evaporator fan performance - 4 tons standard efficiency - WSC048E3,E4,EW downflow airflow

External Static Pressure (Inches of Water)																					
		.10		.20		.30		.40		.50		.60		.70		.80		.90		1.00	
cfm	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	
1-hp Standard Motor & Field Supplied Low Static Drive ^(a)											1-hp Standard Motor & Drive										
1280	—	—	619	0.20	680	0.24	735	0.29	789	0.34	843	0.39	894	0.45	940	0.51	983	0.56	1025	0.63	
1440	597	0.20	664	0.25	724	0.30	775	0.35	823	0.40	872	0.46	921	0.52	968	0.58	1012	0.65	1052	0.71	
1600	648	0.26	710	0.32	768	0.37	818	0.43	864	0.49	908	0.54	950	0.60	995	0.67	1039	0.74	1081	0.81	
1760	700	0.34	758	0.39	812	0.46	862	0.52	907	0.58	948	0.64	988	0.71	1027	0.77	1068	0.84	1108	0.91	
1920	753	0.43	807	0.49	858	0.55	906	0.62	952	0.70	992	0.76	1029	0.83	1066	0.89	1102	0.96	1138	1.03	

Continued

External Static Pressure (Inches of Water)											
		1.10		1.20		1.30		1.40		1.50	
cfm	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm
1-hp Standard Motor & Drive											
1280	1063	0.69	1101	0.75	1138	0.81	1175	0.88	1208	0.94	—
1440	1091	0.78	1128	0.85	1164	0.91	1198	0.98	1233	1.05	—
1600	1120	0.88	1157	0.95	1193	1.02	1227	1.10	1259	1.17	—
1760	1147	0.99	1185	1.07	1220	1.14	1256	1.23	—	—	—
1920	1174	1.11	1212	1.19	1247	1.27	—	—	—	—	—
1-hp Standard Motor & Field Supplied High Static Drive ^(b)											

Note:

1. For Standard Evaporator Fan Speed (rpm), reference [Table 22, p. 44](#).
2. Data includes pressure drop due to standard filters and wet coils. No accessories or options are included in pressure drop data.
3. Data does not include pressure drop due to reheat coil.
4. Refer to [Table 29, p. 46](#) to determine additional static pressure drop due to other options/accessories.
5. 1-hp Fan Motor Heat (MBh) = 2.7672 x Fan bhp + 0.4705.
6. Factory supplied motors, in equipment, are definite purpose motors, specifically designed and tested to operate 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.

(a) Field Supplied Fan Sheave AK69x3/4" required. Field Supplied Belt may be necessary.

(b) Field Supplied Fan Sheave AK41x3/4" required. Field Supplied Belt may be necessary.

Evaporator Fan Performance

Table 13. Belt drive evaporator fan performance - 4 tons standard efficiency - WSC048E3,E4,EW horizontal airflow

External Static Pressure (Inches of Water)																					
	.10		.20		.30		.40		.50		.60		.70		.80		.90		1.00		
cfm	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	
1-hp Standard Motor & Field Supplied Low Static Drive ^(a)											1-hp Standard Motor & Drive										
1280	—	—	633	0.20	704	0.26	767	0.31	822	0.37	871	0.42	915	0.48	957	0.54	997	0.60	1035	0.66	
1440	604	0.20	676	0.26	744	0.32	805	0.38	859	0.44	909	0.50	954	0.57	996	0.63	1035	0.69	1073	0.76	
1600	656	0.27	721	0.32	785	0.39	843	0.45	897	0.52	946	0.59	991	0.66	1034	0.73	1075	0.80	1110	0.87	
1760	709	0.34	768	0.40	827	0.47	883	0.54	936	0.61	984	0.69	1030	0.77	1072	0.84	1113	0.92	1149	1.00	
1920	762	0.43	817	0.50	872	0.57	925	0.64	975	0.72	1023	0.80	1067	0.88	1109	0.97	1150	1.05	1188	1.14	
											1-hp Standard Motor & Field Supplied High Static Drive ^(b)										

Continued

External Static Pressure (Inches of Water)										
	1.10		1.20		1.30		1.40		1.50	
cfm	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1-hp Standard Motor & Drive										
1280	1072	0.71	1107	0.77	1142	0.84	1176	0.90	1210	0.97
1440	1108	0.83	1143	0.89	1176	0.96	1209	1.02	1239	1.09
1600	1146	0.95	1180	1.02	1212	1.09	1243	1.16	—	—
1760	1185	1.08	1219	1.16	1251	1.24	—	—	—	—
1920	1223	1.22	1258	1.31	—	—	—	—	—	—
1-hp Standard Motor & Field Supplied High Static Drive ^(b)										

Notes:

1. For Standard Evaporator Fan Speed (rpm), reference [Table 22, p. 44](#).
2. Data includes pressure drop due to standard filters and wet coils. No accessories or options are included in pressure drop data.
3. Data does not include pressure drop due to reheat coil.
4. Refer to [Table 29, p. 46](#) to determine additional static pressure drop due to other options/accessories.
5. 1-hp Fan Motor Heat (MBh) = 2.7672 x Fan bhp + 0.4705.
6. Factory supplied motors, in equipment, are definite purpose motors, specifically designed and tested to operate 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.

(a) Field Supplied Fan Sheave AK69x3/4" required. Field Supplied Belt may be necessary.
 (b) Field Supplied Fan Sheave AK41x3/4" required. Field Supplied Belt may be necessary.



Evaporator Fan Performance

Table 14. Belt drive evaporator fan performance - 5 tons standard efficiency - WSC060E3,E4,EW downflow airflow

External Static Pressure (Inches of Water)																					
		.10		.20		.30		.40		.50		.60		.70		.80		.90		1.00	
cfm	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	
1-hp Standard Motor & Field Supplied Low Static Drive ^(a)												1-hp Standard Motor & Drive									
1600	—	—	—	—	623	0.26	681	0.31	734	0.36	783	0.41	831	0.46	878	0.52	923	0.58	965	0.64	
1800	—	—	594	0.27	656	0.32	712	0.38	763	0.43	810	0.49	855	0.54	899	0.60	941	0.67	983	0.73	
2000	571	0.28	633	0.34	690	0.40	744	0.46	794	0.52	840	0.58	883	0.64	924	0.71	964	0.77	1003	0.84	
2200	615	0.36	674	0.42	727	0.49	778	0.55	826	0.62	871	0.69	913	0.76	953	0.82	991	0.89	1030	0.96	
2400	660	0.45	715	0.52	766	0.59	814	0.66	859	0.74	903	0.81	945	0.88	984	0.96	1021	1.03	1057	1.11	

Continued

External Static Pressure (Inches of Water)										
	1.10		1.20		1.30		1.40		1.50	
cfm	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1-hp Standard Motor & Drive										
1600	1005	0.71	1045	0.78	1083	0.84	1120	0.91	1155	0.98
1800	1023	0.80	1062	0.87	1098	0.94	1134	1.01	1170	1.09
2000	1041	0.91	1079	0.98	1116	1.06	1152	1.13	1186	1.21
2200	1065	1.03	1100	1.11	1135	1.18	1169	1.26	1203	1.34
2400	1092	1.18	1125	1.26	1159	1.34	1191	1.41	1223	1.50
1-hp Standard Motor & Field Supplied High Static Drive ^(b)										

Notes:

1. For Standard Evaporator Fan Speed (rpm), reference [Table 22, p. 44](#).
2. Data includes pressure drop due to standard filters and wet coils. No accessories or options are included in pressure drop data.
3. Data does not include pressure drop due to reheat coil.
4. Refer to [Table 29, p. 46](#) to determine additional static pressure drop due to other options/accessories.
5. 1-hp Fan Motor Heat (MBh) = 2.7672 x Fan bhp + 0.4705.
6. Factory supplied motors, in equipment, are definite purpose motors, specifically designed and tested to operate 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.

(a) Field Supplied Fan Sheave AK69x3/4" required. Field Supplied Belt may be necessary.

(b) Field Supplied Fan Sheave AK41x3/4" required. Field Supplied Belt may be necessary.

Evaporator Fan Performance

Table 15. Belt drive evaporator fan performance - 5 tons standard efficiency - WSC060E3,E4,EW horizontal airflow

External Static Pressure (Inches of Water)																					
		.10		.20		.30		.40		.50		.60		.70		.80		.90		1.00	
cfm	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	
1-hp Standard Motor & Field Supplied Low Static Drive ^(a)											1-hp Standard Motor & Drive										
1600	—	—	585	0.23	659	0.29	724	0.35	787	0.42	846	0.49	901	0.56	950	0.64	995	0.71	1038	0.78	
1800	—	—	622	0.29	690	0.36	753	0.43	811	0.49	866	0.57	922	0.65	973	0.73	1020	0.81	1064	0.90	
2000	598	0.31	661	0.37	724	0.44	784	0.52	840	0.59	893	0.66	943	0.74	993	0.83	1041	0.92	1085	1.01	
2200	647	0.40	703	0.46	761	0.54	817	0.62	870	0.70	921	0.78	970	0.86	1016	0.95	1061	1.04	1106	1.13	
2400	696	0.50	746	0.57	799	0.65	853	0.74	903	0.82	952	0.91	998	1.00	1043	1.09	1086	1.18	1127	1.27	

Continued

External Static Pressure (Inches of Water)											
		1.10		1.20		1.30		1.40		1.50	
cfm	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm
1-hp Standard Motor & Drive											
1600	1078	0.86	1115	0.93	1150	1.01	1183	1.08	1214	1.16	—
1800	1105	0.98	1143	1.06	1180	1.15	1215	1.23	—	—	—
2000	1128	1.10	1169	1.20	1207	1.29	—	—	—	—	—
2200	1150	1.24	1190	1.34	—	—	—	—	—	—	—
2400	1170	1.38	1211	1.48	—	—	—	—	—	—	—
1-hp Standard Motor & Field Supplied High Static Drive ^(b)											

Notes:

1. For Standard Evaporator Fan Speed (rpm), reference [Table 22, p. 44](#).
2. Data includes pressure drop due to standard filters and wet coils. No accessories or options are included in pressure drop data.
3. Data does not include pressure drop due to reheat coil.
4. Refer to [Table 29, p. 46](#) to determine additional static pressure drop due to other options/accessories.
5. 1-hp Fan Motor Heat (MBh) = 2.7672 x Fan bhp + 0.4705.
6. Factory supplied motors, in equipment, are definite purpose motors, specifically designed and tested to operate 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.

(a) Field Supplied Fan Sheave AK69x3/4" required. Field Supplied Belt may be necessary.

(b) Field Supplied Fan Sheave AK41x3/4" required. Field Supplied Belt may be necessary.



Evaporator Fan Performance

Table 16. Belt drive evaporator fan performance - 6 tons standard efficiency - WSC072E3,E4,EW downflow airflow

External Static Pressure (Inches of Water)																					
		.10		.20		.30		.40		.50		.60		.70		.80		.90		1.00	
cfm	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	
1-hp Standard Motor & Field Supplied Low Static Drive ^(a)													1-hp Standard Motor & Drive								
1920	—	—	581	0.28	636	0.34	685	0.39	732	0.45	775	0.50	815	0.55	854	0.60	892	0.66	927	0.71	
2160	—	—	626	0.37	677	0.43	725	0.49	769	0.55	810	0.61	849	0.67	887	0.73	922	0.79	956	0.84	
2400	620	0.42	672	0.49	720	0.55	766	0.61	807	0.68	847	0.75	885	0.81	921	0.88	956	0.95	989	1.01	
2640	672	0.55	719	0.62	765	0.69	808	0.76	848	0.83	886	0.90	923	0.98	957	1.05	991	1.12	1024	1.20	
2880	725	0.70	768	0.77	811	0.85	852	0.92	890	1.00	927	1.08	962	1.16	995	1.24	1028	1.32	1059	1.40	
Continued																					
External Static Pressure (Inches of Water)																					
		1.10		1.20		1.30		1.40		1.50		1.60		1.70		1.80		1.90		2.00	
cfm	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	
1-hp Standard Motor & Drive						1-hp Standard Motor & Field Supplied High Static Drive or (2-hp Oversized Motor & Drive)															
1920	962	0.77	995	0.83	1026	0.89	1057	0.95	1087	1.01	1115	1.07	1143	1.13	1171	1.19	1196	1.24	1222	1.30	
2160	990	0.91	1023	0.97	1054	1.04	1085	1.11	1114	1.17	1142	1.24	1170	1.30	1197	1.37	1222	1.43	1249	1.50	
2400	1022	1.07	1051	1.13	1082	1.20	1112	1.28	1141	1.35	1170	1.42	1198	1.50	1224	1.57	1249	1.64	1276	1.72	
2640	1055	1.27	1085	1.34	1114	1.41	1142	1.47	1169	1.54	1198	1.62	1226	1.70	1252	1.78	1278	1.86	1304	1.95	
2880	1089	1.48	1119	1.56	1149	1.64	1176	1.72	1203	1.79	1229	1.87	1255	1.94	1280	2.01	1306	2.10	1331	2.19	
2-hp Oversized Motor & Drive																					

Notes:

1. For Standard Evaporator Fan Speed (rpm), reference [Table 22, p. 44](#).
2. Data includes pressure drop due to standard filters and wet coils.
3. Refer to [Table 29, p. 46](#) to determine additional static pressure drop due to other options/accessories.
4. 1-HP Fan Motor Heat (MBH) = 2.829xFan BHP+.4024. 2-HP Fan Motor Heat (MBH) = 3.000xFan BHP+.5000.
5. Factory supplied motors, in equipment, are definite purpose motors, specifically designed and tested to operate 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.

(a) Field Supplied Fan Sheave AK79 and Belt AX38 required.

Evaporator Fan Performance

Table 17. Belt drive evaporator fan performance - 6 tons standard efficiency - WSC072E3,E4,EW horizontal airflow

External Static Pressure (Inches of Water)																					
	.10		.20		.30		.40		.50		.60		.70		.80		.90		1.00		
cfm	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	
1-hp Standard Motor & Field Supplied Low Static Drive ^(a)											1-hp Standard Motor & Drive										
1920	581	0.31	627	0.36	679	0.43	731	0.49	781	0.56	829	0.64	873	0.71	916	0.79	956	0.87	997	0.96	
2160	631	0.42	679	0.48	728	0.56	773	0.62	820	0.70	865	0.78	907	0.85	948	0.94	987	1.02	1025	1.11	
2400	690	0.56	735	0.63	778	0.70	821	0.78	862	0.86	904	0.94	944	1.03	983	1.11	1021	1.21	1058	1.30	
2640	749	0.73	791	0.81	830	0.87	871	0.97	909	1.05	946	1.13	984	1.22	1022	1.32	1058	1.42	1093	1.51	
2880	809	0.92	849	1.02	886	1.09	922	1.17	959	1.29	993	1.37	1027	1.46	1062	1.56	1097	1.66	1131	1.77	
											2-hp Oversized Motor & Drive										

Continued

External Static Pressure (Inches of Water)																					
		1.10		1.20		1.30		1.40		1.50		1.60		1.70		1.80		1.90		2.00	
cfm	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	
1-hp Standard Motor & Drive							2-hp Oversized Motor & Drive														
1920	1034	1.05	1070	1.14	1105	1.24	1139	1.33	1171	1.42	1204	1.52	1234	1.62	1264	1.71	1292	1.81	1320	1.91	
2160	1062	1.21	1098	1.30	1133	1.41	1166	1.51	1199	1.61	1229	1.71	1261	1.82	1290	1.93	1318	2.03	1346	2.14	
2400	1093	1.40	1128	1.50	1161	1.60	1194	1.70	1227	1.81	1258	1.93	1288	2.04	1316	2.15	1346	2.27	—	—	
2640	1127	1.62	1161	1.72	1193	1.82	1225	1.93	1255	2.04	1287	2.16	1315	2.27	1345	—	—	—	—	—	
2880	1163	1.87	1196	1.98	1227	2.09	1257	2.20	—	—	—	—	—	—	—	—	—	—	—	—	

Notes:

1. For Standard Evaporator Fan Speed (rpm), reference [Table 22, p. 44](#).
2. Data includes pressure drop due to standard filters and wet coils.
3. Refer to [Table 29, p. 46](#) to determine additional static pressure drop due to other options/accessories.
4. 1-HP Fan Motor Heat (MBH) = 2.829xFan BHP+.4024. 2-HP Fan Motor Heat (MBH) = 3.000xFan BHP+.5000.
5. Factory supplied motors, in equipment, are definite purpose motors, specifically designed and tested to operate 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.

(a) Field Supplied Fan Sheave AK79 and Belt AX38 required.



Evaporator Fan Performance

Table 18. Belt drive evaporator fan performance - 7½ tons standard efficiency - WSC090E3,E4,EW downflow airflow

External Static Pressure (Inches of Water)																					
		.10		.20		.30		.40		.50		.60		.70		.80		.90		1.00	
cfm	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	
1-hp Standard Motor & Low Static Drive Accessory Kit ^(a)															1-hp Standard Motor & Drive						
2400	421	0.22	472	0.31	518	0.38	562	0.46	606	0.54	649	0.63	690	0.72	728	0.81	763	0.90	798	0.99	
2700	461	0.28	508	0.38	551	0.48	590	0.56	629	0.65	667	0.74	708	0.84	745	0.94	781	1.04	815	1.14	
3000	501	0.35	545	0.47	586	0.58	623	0.68	658	0.78	693	0.88	727	0.97	763	1.08	799	1.19	832	1.30	
3300	542	0.44	583	0.58	621	0.70	657	0.82	690	0.93	723	1.03	755	1.14	786	1.24	817	1.35	851	1.48	
3600	584	0.54	623	0.70	658	0.84	692	0.97	724	1.09	755	1.21	784	1.32	814	1.44	842	1.55	871	1.67	
															3-hp Oversized Motor & Drive						
Continued																					
External Static Pressure (Inches of Water)																					
		1.10		1.20		1.30		1.40		1.50		1.60		1.70		1.80		1.90		2.00	
cfm	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	
1-hp Standard Motor & Drive												3-hp Oversized Motor & Drive									
2400	830	1.09	860	1.17	890	1.27	918	1.36	945	1.45	971	1.55	997	1.64	1022	1.74	1047	1.83	1071	1.93	
2700	846	1.24	876	1.34	907	1.45	936	1.55	963	1.65	989	1.76	1014	1.86	1039	1.97	1063	2.07	1087	2.18	
3000	865	1.42	895	1.53	923	1.64	952	1.75	980	1.87	1006	1.98	1031	2.09	1056	2.21	1081	2.32	1104	2.44	
3300	882	1.60	912	1.72	942	1.85	969	1.96	998	2.09	1024	2.22	1049	2.34	1073	2.46	1098	2.59	1121	2.71	
3600	901	1.80	931	1.93	960	2.06	988	2.19	1015	2.33	1041	2.47	1067	2.60	1092	2.74	1116	2.87	1140	3.01	
										3-hp Oversized Motor & Drive & Field Supplied High Static Drive ^(b)											

Notes:

1. For Standard Evaporator Fan Speed (rpm), reference [Table 22, p. 44](#).
2. Data includes pressure drop due to standard filters and wet coils.
3. Refer to [Table 29, p. 46](#) to determine additional static pressure drop due to other options/accessories.
4. 1-HP Fan Motor Heat (MBH) = 2.829xFan BHP+.4024. 2-HP Fan Motor Heat (MBH) = 3.000xFan BHP+.5000.
5. Factory supplied motors, in equipment, are definite purpose motors, specifically designed and tested to operate 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.

(a) BAYLSDR009AA

(b) Field Supplied Fan Sheave AK59 and Belt AX35 required.

Evaporator Fan Performance

Table 19. Belt drive evaporator fan performance - 7½ tons standard efficiency - WSC090E3,E4,EW horizontal airflow

External Static Pressure (Inches of Water)																					
	.10		.20		.30		.40		.50		.60		.70		.80		.90		1.00		
cfm	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	
1-hp Standard Motor & Low Static Drive Accessory Kit ^(a)																					
2400	484	0.32	531	0.40	587	0.51	642	0.62	688	0.72	728	0.82	762	0.92	794	1.01	825	1.11	853	1.20	
2700	533	0.44	574	0.52	620	0.63	671	0.75	719	0.87	762	0.99	799	1.11	832	1.22	862	1.32	890	1.43	
3000	582	0.58	621	0.67	659	0.78	702	0.90	748	1.04	792	1.17	832	1.31	867	1.44	898	1.56	927	1.68	
3300	632	0.74	669	0.85	703	0.96	739	1.08	779	1.22	821	1.37	861	1.52	898	1.67	932	1.82	963	1.96	
3600	683	0.94	718	1.07	749	1.18	780	1.30	815	1.44	852	1.59	890	1.75	928	1.92	963	2.09	995	2.25	
											3-hp Oversized Motor & Drive										
Continued																					
External Static Pressure (Inches of Water)																					
	1.10		1.20		1.30		1.40		1.50		1.60		1.70		1.80		1.90		2.00		
cfm	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	
1-hp Standard Motor & Drive							3-hp Oversized Motor & Drive														
2400	881	1.30	907	1.39	932	1.49	957	1.59	981	1.69	1004	1.78	1026	1.88	1048	1.98	1070	2.08	1090	2.18	
2700	917	1.53	943	1.64	969	1.75	993	1.86	1016	1.96	1039	2.07	1061	2.18	1083	2.29	1104	2.40	1125	2.52	
3000	954	1.80	980	1.92	1005	2.04	1030	2.16	1052	2.27	1075	2.39	1097	2.51	1118	2.63	1139	2.75	1159	2.87	
3300	991	2.09	1018	2.23	1043	2.36	1067	2.49	1090	2.62	1112	2.75	1133	2.87	1154	3.01	1175	3.13	1195	3.27	
3600	1026	2.41	1054	2.56	1080	2.71	1103	2.85	1127	2.99	1149	3.14	1170	3.27	1191	3.41	—	—	—	—	
											3-hp Oversized Motor & Drive & Field Supplied High Static Drive ^(b)										

Notes:

1. For Standard Evaporator Fan Speed (rpm), reference [Table 22, p. 44](#).
2. Data includes pressure drop due to standard filters and wet coils.
3. Refer to [Table 29, p. 46](#) to determine additional static pressure drop due to other options/accessories.
4. 1-HP Fan Motor Heat (MBH) = 2.829xFan BHP+.4024. 2-HP Fan Motor Heat (MBH) = 3.000xFan BHP+.5000.
5. Factory supplied motors, in equipment, are definite purpose motors, specifically designed and tested to operate 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.

(a) BAYLSDR009AA

(b) Field Supplied Fan Sheave AK59 and Belt AX35 required.



Evaporator Fan Performance

Table 20. Direct drive evaporator fan performance - 10 tons standard efficiency - WSC120E3,E4,EW downflow airflow

External Static Pressure (Inches of Water)																					
		.10		.20		.30		.40		.50		.60		.70		.80		.90		1.00	
cfm	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	
3200	1024	0.65	1056	0.73	1087	0.81	1118	0.89	1146	0.98	1172	1.06	1199	1.15	1226	1.24	1255	1.35	1280	1.44	
3600	1144	0.90	1173	0.99	1201	1.08	1229	1.18	1256	1.27	1282	1.36	1305	1.45	1328	1.55	1352	1.65	1377	1.76	
4000	1264	1.21	1291	1.31	1317	1.41	1342	1.51	1367	1.62	1392	1.72	1414	1.82	1437	1.93	1458	2.03	1478	2.14	
4400	1385	1.58	1410	1.70	1434	1.81	1457	1.92	1480	2.03	1503	2.15	1525	2.26	1546	2.37	1567	2.49	1586	2.60	
4800	1507	2.03	1530	2.16	1552	2.28	1574	2.40	1595	2.52	1616	2.65	1636	2.77	1657	2.89	1677	3.02	1696	3.14	

Continued

External Static Pressure (Inches of Water)																					
		1.10		1.20		1.30		1.40		1.50		1.60		1.70		1.80		1.90		2.00	
cfm	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	
3200	1303	1.53	1326	1.62	1349	1.72	1374	1.82	1401	1.93	1425	2.04	1450	2.15	1474	2.27	1498	2.38	1521	2.50	
3600	1401	1.87	1426	1.99	1448	2.09	1467	2.19	1487	2.29	1508	2.39	1530	2.51	1552	2.62	1576	2.75	1598	2.87	
4000	1500	2.25	1522	2.37	1544	2.49	1567	2.62	1588	2.75	1608	2.86	1625	2.97	1643	3.08	1661	3.19	1681	3.31	
4400	1605	2.72	1624	2.84	1643	2.96	1664	3.09	1684	3.22	—	—	—	—	—	—	—	—	—	—	
4800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

Notes:

1. For Direct Drive Fan Speed (rpm), reference [Table 27, p. 45](#).
2. Data includes pressure drop due to standard filters and wet coils.
3. Refer to [Table 29, p. 46](#) to determine additional static pressure drop due to other options/accessories.
4. Direct Drive Fan Motor Heat (MBH) = $2.8623 \times \text{Fan BHP} - 0.1504$
5. Factory supplied motors, in equipment, are definite purpose motors, specifically designed and tested to operate at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.

Evaporator Fan Performance

Table 21. Direct drive evaporator fan performance - 10 tons standard efficiency - WSC120E3,E4,EW horizontal airflow

External Static Pressure (Inches of Water)																				
	.10		.20		.30		.40		.50		.60		.70		.80		.90		1.00	
cfm	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
3200	1084	0.80	1124	0.91	1167	1.04	1205	1.16	1237	1.27	1267	1.38	1296	1.49	1324	1.60	1351	1.72	1377	1.83
3600	1210	1.11	1243	1.22	1284	1.37	1320	1.50	1355	1.65	1383	1.77	1410	1.89	1436	2.02	1462	2.14	1486	2.27
4000	1338	1.50	1367	1.61	1401	1.76	1436	1.92	1468	2.07	1500	2.23	1526	2.37	1551	2.51	1575	2.65	1599	2.78
4400	1466	1.96	1493	2.09	1520	2.22	1553	2.41	1584	2.58	1613	2.75	1643	2.93	1668	3.09	1691	3.24	—	—
4800	1594	2.52	1619	2.66	1643	2.80	1671	2.97	1700	3.17	—	—	—	—	—	—	—	—	—	—

Continued

External Static Pressure (Inches of Water)																				
	1.10		1.20		1.30		1.40		1.50		1.60		1.70		1.80		1.90		2.00	
cfm	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
3200	1402	1.94	1427	2.07	1451	2.18	1475	2.30	1497	2.43	1519	2.54	1541	2.67	1562	2.79	1583	2.92	1603	3.04
3600	1511	2.39	1534	2.52	1557	2.65	1579	2.78	1601	2.91	1623	3.05	1643	3.18	1664	3.31	1685	3.45	1700	3.59
4000	1621	2.92	1644	3.06	1666	3.20	1687	3.34	—	—	—	—	—	—	—	—	—	—	—	—
4400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Notes:

1. For Direct Drive Fan Speed (rpm), reference [Table 27, p. 45](#).
2. Data includes pressure drop due to standard filters and wet coils.
3. Refer to [Table 29, p. 46](#) to determine additional static pressure drop due to other options/accessories.
4. Direct Drive Fan Motor Heat (MBH) = $2.8623 \times \text{Fan BHP} - 0.1504$
5. Factory supplied motors, in equipment, are definite purpose motors, specifically designed and tested to operate at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.



Fan Performance

Table 22. Standard motor & sheave/fan speed (rpm)

Tons	Unit Model Number	Fan Sheave	6 Turns Open	5 Turns Open	4 Turns Open	3 Turns Open	2 Turns Open	1 Turn Open	Closed
3	WSC036E	AK51x3/4"	N/A	761	835	909	982	1057	1125
4	WSC048E	AK49x3/4"	N/A	801	874	946	1019	1091	1164
5	WSC060E	AK49x3/4"	N/A	798	868	939	1010	1081	1152
6	WSC072E	AK59x1"	N/A	805	865	925	985	1045	1105
7½	WSC090E	AK64x1"	N/A	695	751	807	863	919	975

Note: Factory set at 3 turns open.

Table 23. Standard motor & low static drive accessory sheave/fan speed (rpm)

Tons	Unit Model Number	Fan Sheave	6 Turns Open	5 Turns Open	4 Turns Open	3 Turns Open	2 Turns Open	1 Turn Open	Closed
3	WSC036E	AK71x3/4"	N/A	549	600	650	701	751	802
4	WSC048E	AK69x3/4"	N/A	567	619	671	723	775	828
5	WSC060E	AK69x3/4"	N/A	566	617	668	719	770	821
6	WSC072E	AK79x1"	N/A	581	626	671	716	761	805
7½	WSC090E	AK79x1"	N/A	581	626	671	716	761	805
7½	WSC090E	AK99x1"	N/A	462	497	533	569	604	640

Note: Factory set at 3 turns open.

Table 24. Standard motor & high static drive accessory sheave/fan speed (rpm)

Tons	Unit Model Number	Fan Sheave	6 Turns Open	5 Turns Open	4 Turns Open	3 Turns Open	2 Turns Open	1 Turn Open	Closed
3	WSC036E	AK41x3/4"	N/A	966	1041	1115	1190	1227	N/A
4	WSC048E	AK41x3/4"	N/A	958	1034	1110	1186	1261	N/A
5	WSC060E	AK41x3/4"	N/A	970	1034	1097	1161	1224	N/A

Note: Factory set at 3 turns open.

Table 25. Oversized motor & drive sheave/fan speed (rpm)

Tons	Unit Model Number	Fan Sheave	6 Turns Open	5 Turns Open	4 Turns Open	3 Turns Open	2 Turns Open	1 Turn Open	Closed
6	WSC072E	AK44x1"	N/A	1110	1183	1256	1329	1402	1475
7½	WSC090E	AK64x1"	N/A	835	891	946	1002	1057	1113

Note: Factory set at 3 turns open.

Table 26. Oversized motor & high static drive sheave/fan speed (rpm)

Tons	Unit Model Number	6 Turns Open	5 Turns Open	4 Turns Open	3 Turns Open	2 Turns Open	1 Turn Open	Closed
7½	WSC090E	N/A	908	968	1029	1090	1150	1211

Note: Factory set at 3 turns open.

Fan Performance

Table 27. Direct drive plenum fan settings (rpm vs. voltage)^{(a), (b)}

WSC120E	
Potentiometer Voltage	Motor RPM
2.34	504
2.50	543
2.75	605
3.00	668
3.25	732
3.50	797
3.75	863
4.00	929
4.25	995
4.50	1061
4.75	1126
5.00	1191
5.25	1253
5.50	1315
5.75	1374
6.00	1432
6.25	1487
6.50	1539
6.75	1588
7.00	1633
7.25	1675
7.50	1700

(a) See fan tables for unit RPM and CFM units.

(b) Factory setting is 5V

Table 28. Outdoor sound power level - dB (ref. 10 - 12 W)

Tons	Unit Model Number	Octave Center Frequency								Overall dBA
		63	125	250	500	1000	2000	4000	8000	
3	WSC036E	77	85	79	78	75	71	66	59	80
4	WSC048E	81	82	83	81	77	72	66	59	82
5	WSC060E	81	87	84	85	83	78	73	67	87
6	WSC072E	91	95	90	87	84	79	75	68	89
7½	WSC090E	94	89	87	85	84	78	75	69	88
10	WSC120E	89	87	91	85	80	77	73	66	87

Note: Tests follow ARI270-95.

Fan Performance

Table 29. Static pressure drop through accessories (inches water column) - 3-10 tons

Tons	Unit Model Number	cfm	Standard Filters ^(d)	2" MERV 7 Filter	2" MERV 13 Filter	Economizer with OA/RA Dampers ^(a)						Electric Heater Accessory (kW) ^{(b), (c)}			
						100 % OA	100 % RA	100 % OA	100 % RA	100 % OA	100 % RA	5-6	9-18	23-36	54
						Downflow	Low Leak ^(e)	Downflow	Low Leak ^(e)	Horizontal	Horizontal				
3	WSC036E3	960	0.02	0.03	0.03	0.05	0.01	0.11	0.04	0.05	0.01	0.01	0.02	0.02	—
3	WSC036E3	1200	0.03	0.05	0.04	0.07	0.02	0.17	0.07	0.07	0.01	0.02	0.03	0.03	—
3	WSC036E3	1440	0.03	0.06	0.04	0.10	0.03	0.23	0.09	0.10	0.01	0.03	0.04	0.04	—
4	WSC048E3	1280	0.03	0.05	0.06	0.09	0.02	0.08	0.04	0.09	0.01	0.02	0.03	0.03	—
4	WSC048E3	1600	0.04	0.07	0.07	0.13	0.04	0.13	0.08	0.13	0.02	0.04	0.05	0.05	—
4	WSC048E3	1920	0.06	0.10	0.08	0.17	0.06	0.20	0.09	0.17	0.02	0.05	0.06	0.08	—
5	WSC060E3	1600	0.03	0.06	0.05	0.09	0.01	0.14	0.08	0.05	0.01	0.01	0.01	0.02	—
5	WSC060E3	2000	0.05	0.08	0.07	0.11	0.01	0.22	0.10	0.07	0.02	0.02	0.01	0.03	—
5	WSC060E3	2400	0.07	0.10	0.10	0.12	0.03	0.31	0.11	0.09	0.03	0.03	0.02	0.04	—
6	WSC072E	1920	0.04	0.07	0.10	0.10	0.01	0.20	0.09	0.06	0.02	—	0.01	0.02	—
6	WSC072E	2400	0.06	0.09	0.13	0.11	0.02	0.31	0.11	0.08	0.02	—	0.02	0.03	—
6	WSC072E	2880	0.09	0.12	0.15	0.13	0.04	0.46	0.19	0.10	0.04	—	0.03	0.05	—
7½	WSC090E	2400	0.04	0.06	0.12	0.11	0.02	0.20	0.09	0.08	0.02	—	0.02	0.02	—
7½	WSC090E	3000	0.06	0.09	0.13	0.14	0.05	0.31	0.11	0.12	0.05	—	0.03	0.03	—
7½	WSC090E	3600	0.09	0.13	0.15	0.21	0.07	0.46	0.19	0.25	0.08	—	0.04	0.05	—
10	WSC120E	3200	0.07	0.10	0.14	0.17	0.05	0.42	0.18	0.14	0.05	—	0.02	0.03	0.05
10	WSC120E	4000	0.11	0.15	0.16	0.26	0.07	0.63	0.21	0.30	0.08	—	0.02	0.03	0.05
10	WSC120E	4800	0.16	0.20	0.18	0.34	0.09	0.91	0.34	0.35	0.10	—	0.03	0.04	0.06

(a) OA = Outside Air and RA = Return Air.

(b) Nominal kW ratings at 240, 480, 600 volts.

(c) Electric heaters restricted on applications below 320 cfm/ton.

(d) Tested with standard filters. Difference in pressure drop should be considered when utilizing optional 2" MERV 8 and MERV 13 filters.

(e) Low Leak - Downflow only.

Fan Performance

Table 30. Auxiliary electric heat capacity ^(a)

Tons	Unit Model Number	Total ^(b)		No. of Stages	Stage1		Stage 2	
		kW Input ^(c)	MBh Output		kW Input	MBh Output	kW Input	MBh Output
3	WSC036E3,E4,EW	6.00	20.48	1	6.00	20.48	—	—
3	WSC036E3,E4,EW	12.00	40.97	2	6.00	20.48	6.00	20.48
3	WSC036E3,E4,EW	17.40	59.40	2	8.70	29.70	8.70	29.70
4	WSC048E3,E4,EW	6.00	20.48	1	6.00	20.48	—	—
4	WSC048E3,E4,EW	12.00	40.97	2	6.00	20.48	6.00	20.48
4	WSC048E3,E4,EW	17.40	59.40	2	8.70	29.70	8.70	29.70
5	WSC060E3,E4,EW	6.00	20.48	1	6.00	20.48	—	—
5	WSC060E3,E4,EW	12.00	40.97	2	6.00	20.48	6.00	20.48
5	WSC060E3,E4,EW	17.40	59.40	2	8.70	29.70	8.70	29.70
5	WSC060E3,E4,EW	23.00	78.52	2	8.70	29.70	14.30	48.82
6	WSC072E3,4	9	30.73	1	9	30.73	—	—
6	WSC072E3,4,W	18	61.45	1	18	61.45	—	—
6	WSC072E3,4,W	27	92.18	2	18	61.45	9	30.73
6	WSC072E3,4,W	36	122.9	2	18	61.45	18	61.45
7½	WSC090E3,4	9	30.73	1	9	30.73	—	—
7½	WSC090E3,4,W	18	61.45	1	18	61.45	—	—
7½	WSC090E3,4,W	27	92.18	2	18	61.45	9	30.73
7½	WSC090E3,4,W	36	122.9	2	18	61.45	18	61.45
10	WSC120E3,4,W	18	61.45	1	18	61.45	—	—
10	WSC120E3,4	27	92.18	2	18	61.45	9	30.73
10	WSC120E3,4,W	36	122.9	2	18	61.45	18	61.45
10	WSC120E3,4,W	54	184.36	2	36	122.9	18	61.45

(a) 600V is not available on high efficiency units.

(b) Heaters are rated at 240V,380V,480V and 600V. For other than rated voltage, CAP= (voltage/rated voltage)² x rated cap.

(c) All input/output does not include indoor fan power or heat.

Fan Performance

Table 31. Electric heater voltage correction factors (applicable to auxiliary heat capacity)

Nominal Voltage	Distribution Voltage	Capacity Multiplier
240	208	0.751
240	230	0.918
240	240	1.000
480	440	0.840
480	460	0.918
480	480	1.000
600	540	0.810
600	575	0.918
600	600	1.000

Table 32. Air temperature rise across electric heaters (°F)

		3 Tons ^(a) 1200 cfm	4 Tons 1600 cfm	5 Tons ^(b) 2000 cfm
kW	Stages	Three Phase WSC036E3,E4,EW	Three Phase WSC048E3,E4,EW	Three Phase WSC060E3,E4,EW
5.00	1	—	—	—
6.00	1	18.5	10.5	11.4
10.00	2	—	—	—
12.00	2	36.2	22.3	21.5
13.80	2	—	—	—
17.40	2	48.2	33.0	30.0
17.60	2	—	—	—
23.0	2	—	—	38.8

Notes:

- For minimum design airflow, see airflow performance table for each unit.
- To calculate temp rise at different airflow, use the following formula: Temp. rise across Electric Heater = $\text{kW} \times 3414 / 1.08 \times \text{CFM}$.

(a) The minimum allowable airflow for a 3 ton with a 17.4 kW heater is 1080 cfm.

(b) The minimum allowable airflow for a 5 ton unit with a 23.0 kW heater is 1900 cfm.

Table 33. 6-10 tons air temperature rise across electric heaters (°F)

		6 Tons 2000 cfm ^(a)	7 ½ Tons 3000 cfm	10 Tons 4000 cfm ^(b)
kW	Stages	WSC072E3,E4,EW	WSC092E3,4,W	WSC120E3,4,W
9.0	1	14.2	9.5	—
18.0	1	28.5	19.0	14.2
27.0	2	42.7	28.5	21.3
36.0	2	56.9	37.9	28.5
54.0	2	—	—	42.7

Notes:

- For minimum design airflow, see airflow performance table for each unit.
- To calculate temp rise at different airflow, use the following formula: Temp. rise across Electric Heater = $\text{kW} \times 3414 / 1.08 \times \text{CFM}$.

(a) Minimum allowable airflow with a 36 kW heater for the WSC072E is 2400 cfm in the horizontal duct configuration.

(b) Minimum allowable airflow with a 54 kW heater for the WSC120E is 4000 cfm.

Heating Performance Data

Table 34. 3 tons three phase heating capacities (net) WSC036E3,E4,EW at 1200 cfm

Outdoor Temp. F.	Integrated Heating Capacity (Btuh / 1000) at Indicated Indoor Dry Bulb Temp ^(a)				Total Power in Kilowatts at at Indicated Indoor Dry Bulb Temp			
	60	70	75	80	60	70	75	80
-8	11.7	11.0	10.5	10.2	2.41	2.68	2.81	2.97
-3	13.8	13.0	12.6	12.1	2.45	2.72	2.87	3.02
2	15.9	15.0	14.7	14.3	2.48	2.75	2.92	3.07
7	16.9	15.8	15.3	14.7	2.48	2.76	2.91	3.05
12	19.5	18.3	17.8	17.1	2.53	2.81	2.94	3.12
17	21.8	20.7	20.1	19.5	2.57	2.85	3.02	3.17
22	24.4	23.1	22.6	21.9	2.62	2.90	3.06	3.22
27	27.2	26.0	25.3	24.7	2.66	2.96	3.11	3.29
32	29.9	28.5	27.8	27.1	2.71	3.01	3.18	3.35
37	32.9	31.4	30.7	30.0	2.77	3.08	3.25	3.42
42	35.5	34.0	33.2	32.5	2.82	3.14	3.31	3.49
47	38.7	37.0	36.2	35.5	2.90	3.21	3.38	3.58
52	41.4	39.7	38.8	38.1	2.95	3.27	3.45	3.65
57	44.7	42.9	41.9	41.1	3.02	3.35	3.53	3.73
62	47.5	45.6	44.6	43.8	3.09	3.42	3.61	3.82
67	50.7	48.7	47.8	46.8	3.16	3.51	3.70	3.91
72	53.5	51.5	50.5	49.5	3.22	3.59	3.79	3.99

Notes:

1. For other airflow conditions, see heating capacity correction factor [Table 31, p. 48](#).
2. Net heating capacity and power input includes 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.

(a) Integrated heating capacities and powers include the effects of defrost in the frost region. All heating capacities and power (kw) are at 70% OD relative humidity and demand defrost cycle.



Heating Performance Data

Table 35. 4 tons three phase heating capacities (net) WSC048E3,E4,EW at 1600 cfm

Outdoor Temp. F.	Integrated Heating Capacity (Btuh / 1000) at Indicated Indoor Dry Bulb Temp ^(a)				Total Power in Kilowatts at at Indicated Indoor Dry Bulb Temp			
	60	70	75	80	60	70	75	80
-8	13.9	12.3	11.4	10.4	3.02	3.33	3.51	3.69
-3	16.7	15.0	14.1	13.2	3.06	3.38	3.55	3.74
2	19.5	17.8	17.1	16.1	3.11	3.44	3.61	3.81
7	20.7	19.0	17.9	16.9	3.11	3.44	3.61	3.80
12	23.8	22.0	21.1	20.0	3.16	3.49	3.67	3.85
17	26.6	24.9	23.9	22.9	3.20	3.53	3.71	3.90
22	29.9	28.1	27.1	26.1	3.24	3.59	3.77	3.96
27	33.3	31.4	30.4	29.3	3.29	3.65	3.82	4.02
32	36.2	34.3	33.3	32.3	3.33	3.69	3.88	4.07
37	39.8	37.8	36.8	35.8	3.39	3.74	3.94	4.15
42	42.9	40.8	39.8	38.7	3.44	3.79	3.99	4.20
47	46.6	44.4	43.3	42.1	3.50	3.86	4.05	4.26
52	50.0	47.6	46.5	45.3	3.55	3.92	4.12	4.33
57	53.9	51.3	50.3	49.0	3.62	3.98	4.19	4.41
62	57.5	54.7	53.4	52.2	3.69	4.05	4.25	4.48
67	61.5	58.7	57.4	56.0	3.75	4.13	4.34	4.56
72	65.0	62.3	60.8	59.3	3.82	4.21	4.42	4.64

Notes:

1. For other airflow conditions, see heating capacity correction factor [Table 31, p. 48](#).
 2. Net heating capacity and power input includes 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.
- (a) Integrated heating capacities and powers include the effects of defrost in the frost region. All heating capacities and power (kw) are at 70% OD relative humidity and demand defrost cycle.

Heating Performance Data

Table 36. 5 tons three phase heating capacities (net) WSC060E3,E4,EW at 2000 cfm

Outdoor Temp. F.	Integrated Heating Capacity (Btuh / 1000) at Indicated Indoor Dry Bulb Temp ^(a)				Total Power in Kilowatts at at Indicated Indoor Dry Bulb Temp			
	60	70	75	80	60	70	75	80
-8	20.4	19.4	18.8	18.3	3.68	4.13	4.37	4.64
-3	23.7	22.6	22.0	21.5	3.76	4.21	4.45	4.73
2	27.1	26.0	25.4	24.8	3.84	4.30	4.53	4.81
7	28.6	27.2	26.4	25.7	3.85	4.29	4.54	4.80
12	32.4	30.8	30.1	29.3	3.92	4.37	4.63	4.89
17	36.0	34.4	33.6	32.8	3.98	4.44	4.69	4.96
22	39.9	38.2	37.4	36.6	4.06	4.52	4.77	5.05
27	44.0	42.3	41.3	40.4	4.13	4.61	4.85	5.13
32	47.9	46.1	45.1	44.2	4.20	4.68	4.94	5.21
37	52.2	50.2	49.3	48.3	4.28	4.76	5.03	5.31
42	56.3	54.2	53.2	52.2	4.36	4.84	5.12	5.41
47	60.8	58.5	57.4	56.4	4.45	4.94	5.21	5.50
52	65.0	62.6	61.5	60.3	4.54	5.03	5.30	5.60
57	69.7	67.1	65.9	64.7	4.64	5.13	5.40	5.70
62	74.0	71.3	70.0	68.8	4.74	5.24	5.51	5.81
67	78.8	75.9	74.6	73.2	4.85	5.36	5.63	5.93
72	83.1	80.2	78.7	77.2	4.95	5.48	5.75	6.04

Notes:

1. For other airflow conditions, see heating capacity correction factor [Table 31, p. 48](#).
 2. Net heating capacity and power input includes 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.
- (a) Integrated heating capacities and powers include the effects of defrost in the frost region. All heating capacities and power (kw) are at 70% OD relative humidity and demand defrost cycle.



Heating Performance Data

Table 37. 6 tons three phase heating capacities (net) WSC072E3,E4,EW at 2400 cfm

Outdoor Temp.	Instantaneous Heating Capacity (Btuh / 1000)				Integrated Heating Capacity (Btuh / 1000)				Total Power in Kilowatts			
	at Indicated Indoor Dry Bulb Temp				at Indicated Indoor Dry Bulb Temp ^(a)				at Indicated Indoor Dry Bulb Temp			
	F.	60	70	75	80	60	70	75	80	60	70	75
-8	26.78	25.22	24.45	23.67	23.70	22.34	21.66	20.98	4.71	5.05	5.25	5.46
-3	30.60	29.05	28.27	27.50	27.04	25.68	25.01	24.33	4.73	5.08	5.28	5.49
2	34.34	32.77	31.99	31.20	30.30	28.93	28.25	27.56	4.76	5.11	5.32	5.53
7	38.10	36.49	35.68	34.88	33.59	32.18	31.48	30.78	4.79	5.15	5.35	5.57
12	41.97	40.29	39.46	38.62	36.97	35.50	34.77	34.04	4.82	5.19	5.40	5.62
17	46.01	44.24	43.36	42.48	40.50	38.95	38.19	37.42	4.86	5.23	5.44	5.66
22	50.24	48.37	47.43	46.49	42.68	41.10	40.31	39.53	4.95	5.33	5.55	5.78
27	54.67	52.66	51.66	50.66	46.41	44.72	43.88	43.03	4.99	5.38	5.60	5.83
32	59.26	57.11	56.03	54.96	50.27	48.46	47.56	46.65	5.04	5.43	5.65	5.89
37	63.79	61.53	60.40	59.28	54.09	52.19	51.24	50.29	5.09	5.49	5.71	5.95
42	68.63	66.22	65.01	63.81	58.16	56.13	55.12	54.10	5.14	5.55	5.77	6.01
47	73.59	71.01	69.72	68.43	73.59	71.01	69.72	68.43	5.50	5.95	6.19	6.45
52	78.63	75.87	74.50	73.12	78.63	75.87	74.50	73.12	5.57	6.02	6.26	6.53
57	83.74	80.80	79.33	77.86	83.74	80.80	79.33	77.86	5.64	6.09	6.34	6.60
62	88.90	85.77	84.21	82.65	88.90	85.77	84.21	82.65	5.71	6.17	6.42	6.69
67	94.10	90.79	89.14	87.49	94.10	90.79	89.14	87.49	5.79	6.25	6.51	6.78
72	99.35	95.86	94.12	92.38	99.35	95.86	94.12	92.38	5.87	6.34	6.60	6.87

Notes:

1. For other airflow conditions, see heating capacity correction factor [Table 31, p. 48](#).
2. Net heating capacity and power input includes 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.

(a) Integrated heating capacities and powers include the effects of defrost in the frost region. All heating capacities and power (kw) are at 70% OD relative humidity and demand defrost cycle.

Heating Performance Data

Table 38. 7½ tons three phase heating capacities (net) WSC090E3,E4,EW at 3000 cfm

Outdoor Temp.	Instantaneous Heating Capacity (Btuh / 1000)				Integrated Heating Capacity (Btuh / 1000)				Total Power in Kilowatts			
	at Indicated Indoor Dry Bulb Temp				at Indicated Indoor Dry Bulb Temp ^(a)				at Indicated Indoor Dry Bulb Temp			
F.	60	70	75	80	60	70	75	80	60	70	75	80
-8	34.45	33.07	32.37	31.66	30.53	29.31	28.69	28.06	5.63	6.13	6.40	6.69
-3	38.73	37.28	36.55	35.82	34.33	33.05	32.40	31.75	5.72	6.23	6.50	6.79
2	43.02	41.50	40.73	39.96	38.13	36.78	36.10	35.42	5.81	6.32	6.60	6.89
7	47.39	45.78	44.97	44.15	42.00	40.58	39.86	39.13	5.89	6.41	6.70	6.99
12	51.90	50.19	49.32	48.46	46.00	44.48	43.72	42.95	5.98	6.50	6.79	7.09
17	56.59	54.76	53.84	52.91	50.15	48.53	47.72	46.89	6.06	6.59	6.88	7.19
22	61.47	59.51	58.53	57.54	44.00	42.60	41.89	41.18	6.07	6.61	6.90	7.21
27	66.56	64.46	63.41	62.35	47.65	46.14	45.39	44.63	6.16	6.70	7.00	7.30
32	71.85	69.60	68.47	67.33	51.43	49.82	49.01	48.19	6.26	6.80	7.09	7.40
37	77.24	74.87	73.67	72.47	55.29	53.59	52.73	51.87	6.35	6.90	7.20	7.51
42	82.88	80.35	79.08	77.80	59.33	57.51	56.60	55.69	6.46	7.01	7.30	7.62
47	88.69	85.99	84.64	83.28	63.69	61.79	60.84	59.89	6.57	7.13	7.42	7.74
52	94.65	91.79	90.35	88.90	68.33	66.33	65.37	64.42	6.69	7.26	7.55	7.87
57	100.75	97.72	96.19	94.67	73.15	71.05	69.99	68.94	6.82	7.40	7.69	7.99
62	106.98	103.78	102.17	100.56	78.15	75.95	74.79	73.64	6.96	7.55	7.84	8.14
67	113.36	109.98	108.29	106.59	83.33	81.03	79.77	78.52	7.11	7.70	7.99	8.29
72	119.87	116.33	114.55	112.76	88.69	86.30	84.94	83.59	7.27	7.86	8.15	8.45

Notes:

1. For other airflow conditions, see heating capacity correction factor [Table 31, p. 48](#).
2. Net heating capacity and power input includes 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.

(a) Integrated heating capacities and powers include the effects of defrost in the frost region. All heating capacities and power (kw) are at 70% OD relative humidity and demand defrost cycle.



Heating Performance Data

Table 39. 10 tons three phase heating capacities (net) WSC120E3,E4,EW at 4000 cfm

Outdoor Temp.	Instantaneous Heating Capacity (Btuh / 1000)				Integrated Heating Capacity (Btuh / 1000)				Total Power in Kilowatts			
	at Indicated Indoor Dry Bulb Temp				at Indicated Indoor Dry Bulb Temp ^(a)				at Indicated Indoor Dry Bulb Temp			
F.	60	70	75	80	60	70	75	80	60	70	75	80
-8	39.45	38.16	37.46	36.71	39.45	38.16	37.46	36.71	6.88	7.65	8.07	8.51
-3	45.27	43.99	43.29	42.54	45.27	43.99	43.29	42.54	7.01	7.79	8.22	8.66
2	51.22	49.90	49.18	48.41	51.22	49.90	49.18	48.41	7.13	7.93	8.36	8.80
7	57.33	55.94	55.17	54.37	57.33	55.94	55.17	54.37	7.25	8.06	8.49	8.94
12	63.67	62.15	61.33	60.46	63.67	62.15	61.33	60.46	7.37	8.18	8.61	9.07
17	70.24	68.56	67.66	66.71	70.24	68.56	67.66	66.71	7.48	8.30	8.74	9.19
22	77.07	75.18	74.18	73.13	65.33	63.75	62.90	62.02	7.47	8.28	8.72	9.17
27	84.14	82.02	80.89	79.73	71.27	69.48	68.54	67.56	7.58	8.39	8.83	9.29
32	91.43	89.04	87.78	86.48	77.38	75.41	74.32	73.23	7.69	8.51	8.95	9.41
37	98.71	96.13	94.78	93.38	83.49	81.33	80.19	79.02	7.80	8.63	9.07	9.53
42	106.35	103.49	101.99	100.45	89.91	87.50	86.25	84.96	7.92	8.75	9.20	9.66
47	114.18	111.01	109.36	107.67	114.18	111.01	109.36	107.67	8.18	9.04	9.49	9.97
52	122.16	118.67	116.87	115.02	122.16	118.67	116.87	115.02	8.32	9.18	9.63	10.11
57	130.29	126.47	124.50	122.49	130.29	126.47	124.50	122.49	8.46	9.32	9.78	10.26
62	138.54	134.40	132.26	130.09	138.54	134.40	132.26	130.09	8.62	9.48	9.94	10.42
67	146.92	142.45	140.15	137.81	146.92	142.45	140.15	137.81	8.78	9.64	10.10	10.59
72	155.42	150.62	148.16	145.65	155.42	150.62	148.16	145.65	8.94	9.81	10.28	10.76

Notes:

1. For other airflow conditions, see heating capacity correction factor [Table 31, p. 48](#).
2. Net heating capacity and power input includes 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.

(a) Integrated heating capacities and powers include the effects of defrost in the frost region. All heating capacities and power (kw) are at 70% OD relative humidity and demand defrost cycle.

Controls

ReliaTel™ Controlled Units

Zone Sensors are the building occupant's comfort control devices. The following zone sensor options are available for Precedent™ Rooftop units with ReliaTel™ control:

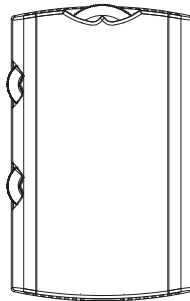
Differential Enthalpy

Differential Enthalpy replaces the standard dry bulb control with two enthalpy sensors that compare total heat content of the indoor air and outdoor air to determine the most efficient air source. This control option offers the highest level of comfort control, plus energy efficiency, available.

Differential Pressure Switches

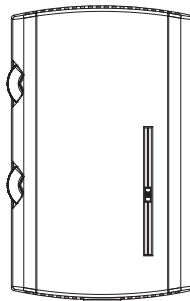
This factory or field-installed option allows individual fan failure and dirty filter indication. The fan failure switch will disable all unit functions and "flash" the Service LED on the zone sensor. The dirty filter switch will light the Service LED on the zone sensor and will allow continued unit operation.

Manual Changeover



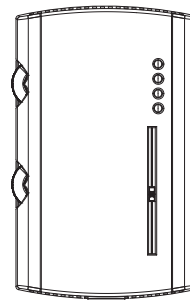
Heat, Cool or Off System Switch. Fan Auto or Off Switch. One temperature setpoint lever.

Manual/Automatic Changeover



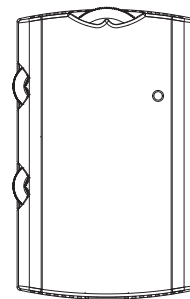
Auto, Heat, Cool or Off System Switch. Fan Auto or Off Switch. Two temperature setpoint levers.

Manual/Automatic Changeover



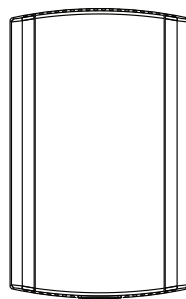
Auto, Heat, Cool or Off System Switch. Fan Auto or Off Switch. Two temperature setpoint levers. Status Indication LED lights, System On, Heat, Cool, or Service.

Manual/Automatic Changeover



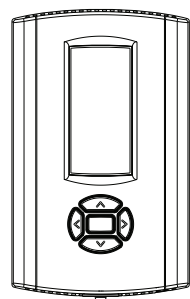
Auto, Heat, Cool or Off System Switch. Fan Auto or Off Switch. Two temperature setpoint levers.

Remote Sensor



Sensor(s) available for all zone sensors to provide remote sensing capabilities.

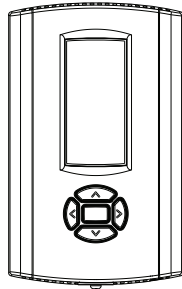
Digital Display Programmable Thermostat (1H/1C)



One heat/One Cool Auto changeover digital display thermostat.

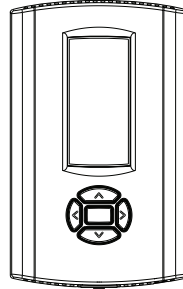
Controls

Digital Display Thermostat (3H/2C)



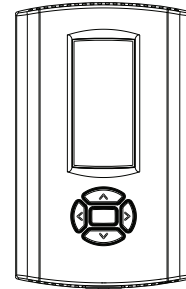
Three Heat, Two Cool Auto changeover digital display thermostat.

Digital Display Programmable Thermostat (3H/2C)



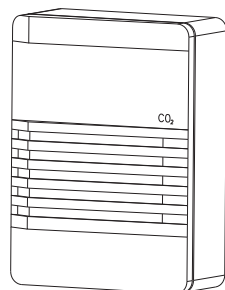
Three Heat/Two Cool Auto changeover digital display thermostat. 7-day programmable stat with night setback is available.

Programmable Night Setback



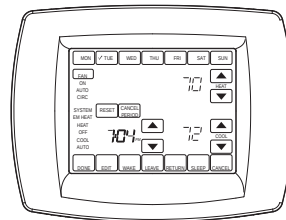
Auto or manual changeover with seven-day programming. Keyboard selection of Heat, Cool, Fan, Auto, or On. All programmable sensors have System On, Heat, Cool, Service LED/indicators as standard. Night Setback Sensors have one (1) Occupied, one (1) Unoccupied, and one (1) Override program per day.

CO₂ Sensing



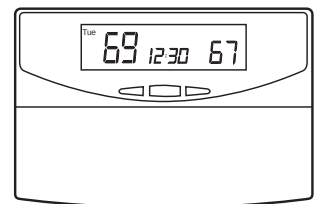
The CO₂ sensor shall have the ability to monitor space occupancy levels within the building by measuring the parts per million of CO₂ (Carbon Dioxide) in the air. As the CO₂ levels increase, the outside air damper modulates to meet the CO₂ space ventilation requirements. The CO₂ accessory shall be available as field installed.

Touchscreen Programmable Thermostat (2H/2C)



Two Heat/Two Cool programmable thermostat with touch screen digital display. Menu-driven programming. Effortless set-up. Program each day separately with no need to copy multiple days. All programming can be done on one screen. Easy to read and use. Large, clear backlit digital display.

Digital Display Programmable Thermostat with Built-In Relative Humidity Sensing (3H/2C)



Three Heat, Two Cool digital display thermostat with built-in humidity control and display. This thermostat combines both humidity and dry bulb into one. Fully programmable with night setback.

Economizer Controls

The standard equipment offering is a fixed dry bulb changeover control. In addition, there are two optional controls, Enthalpy and Differential Enthalpy Control.

Enthalpy Control

Replaces the dry bulb control with a wet bulb changeover controller which has a fully adjustable setpoint. Enthalpy control offers a higher level of comfort control, along with energy savings potential, than the standard dry bulb control. This is due to the additional wet bulb sensing capability.

RA Remote Sensor

Return Air Remote Sensor which can be mounted in the return air duct to report return air temperature.

Room Remote Sensor

Space Remote Sensor which can be mounted on the wall to report/control from a remote location in the space.

Remote Potentiometer

Minimum position setting of economizer can be remotely adjusted with this accessory.

Trane® Communication Interface (TCI)

This factory or field-installed micro-processor interface allows the unit to communicate to Trane's® Integrated Comfort™ system.

BACnet® Communication Interface

This option shall be provided to allow the unit to communicate directly with a generic open protocol BACnet® MS/TP Network Building Automation System Controls.

Electrical Data

Table 40. Unit wiring - standard efficiency

Tons	Unit Model Number	Voltage Range	Standard Indoor Fan Motor ^(a)		Oversized Indoor Fan Motor	
			MCA	Max Fuse Size or Max Circuit Breaker	MCA	Max Fuse Size or Max Circuit Breaker
3	WSC036E3	187-253	23.9	35	—	—
3	WSC036E4	414-506	10.9	15	—	—
3	WSC036EW	517-633	8.6	15	—	—
4	WSC048E3	187-253	25.6	40	—	—
4	WSC048E4	414-506	11.4	15	—	—
4	WSC048EW	517-633	10.0	15	—	—
5	WSC060E3	187-253	30.2	45	—	—
5	WSC060E4	414-506	14.7	20	—	—
5	WSC060EW	517-633	11.0	15	—	—
6	WSC072E3	187-253	36.3	50	37.6	60
6	WSC072E4	414-506	17.6	25	18.2	25
6	WSC072EW	517-633	12.4	20	13.3	20
7½	WSC090E3	187-253	38.4	60	44.2	60
7½	WSC090E4	414-506	19.0	30	21.9	30
7½	WSC090EW	517-633	14.5	20	16.5	25
10	WSC120E3	187-253	51.9	60	—	—
10	WSC120E4	414-506	26.1	35	—	—
10	WSC120EW	517-633	21.1	25	—	—

(a) No optional motors available for 3-5 tons. The standard motor for the 1-phase models is a Multispeed Direct Drive Motor. The standard motor for 3-phase, 3-7½ ton models is a Belt Drive Motor. The standard motor for a 10 ton model is a Multispeed Direct Drive Motor.

Electrical Data

Table 41. Unit wiring with electric heat (single point connection) - standard efficiency

					Standard Indoor Motor		Oversized Indoor Motor	
	Unit Model	Heater Model	Heater kW	Control	Max Fuse Size or			Max Fuse Size or
Tons	Number	Number	Rating ^(a)	Stages	MCA	Max Circuit Breaker	MCA	Max Circuit Breaker
208 / 230 Volts Three Phase								
3	WSC036E3	BAYHTRE306*	4.5/6.0	1	39.5/41.9	45.0/50.0	—	—
3	WSC036E3	BAYHTRE312*	9.0/12.0	2	55.2/60.0	60.0/60.0	—	—
3	WSC036E3	BAYHTRE318*	13.1/17.4	2	69.3/76.3	70.0/80.0	—	—
4	WSC048E3	BAYHTRE306*	4.5/6.0	1	41.2/43.6	50.0/50.0	—	—
4	WSC048E3	BAYHTRE312*	9.0/12.0	2	56.9/61.7	60.0/70.0	—	—
4	WSC048E3	BAYHTRE318*	13.1/17.4	2	71.0/78.0	80.0/80.0	—	—
5	WSC060E3	BAYHTRX306*	4.5/6.0	1	45.8/48.2	60.0/60.0	—	—
5	WSC060E3	BAYHTRX312*	9.0/12.0	2	61.4/66.3	70.0/70.0	—	—
5	WSC060E3	BAYHTRX318*	13.1/17.4	2	75.6/82.6	80.0/90.0	—	—
5	WSC060E3	BAYHTRX323*	17.3/23.0	2	90.2/99.3	100.0/100.0	—	—
6	WSC072E3	BAYHTRW309A	6.8/9.0	1	59.8/63.4	70/80	61.1/64.7	70/80
6	WSC072E3	BAYHTRW318A	13.5/18.0	1	83.2/90.4	90/100	84.5/91.7	90/100
6	WSC072E3	BAYHTRW327A	20.3/27.0	2	106.7/117.6	110/125	108.0/118.9	110/125
6	WSC072E3	BAYHTRW336A	27.0/36.0	2	130.2/144.6	150/150	131.5/145.9	150/150
7½	WSC090E3	BAYHTRU309A	6.8/9.0	1	61.9/65.5	80/80	67.7/71.3	80/90
7½	WSC090E3	BAYHTRU318A	13.5/18.0	1	85.2/92.5	100/100	91.0/98.3	100/100
7½	WSC090E3	BAYHTRU327A	20.3/27.0	2	108.7/119.6	110/125	114.5/125.4	125/150
7½	WSC090E3	BAYHTRU336A	27.0/36.0	2	132.2/146.6	150/150	138.0/152.4	150/175
10	WSC120E3	BAYHTRB318A	13.5/18.0	1	98.8/106.1	100/110	—/—	—/—
10	WSC120E3	BAYHTRB327A	20.3/27.0	2	122.3/133.2	125/150	—/—	—/—
10	WSC120E3	BAYHTRB336A	27.0/36.0	2	145.8/160.2	150/175	—/—	—/—
10	WSC120E3	BAYHTRB354A	40.6/54.0	2	192.7/181.8	200/200	—/—	—/—
460 Volts Three Phase								
3	WSC036E4	BAYHTRE406*	6.0	1	19.9	20.0	—	—
3	WSC036E4	BAYHTRE412*	12.0	2	28.9	30.0	—	—
3	WSC036E4	BAYHTRE418*	17.4	2	37.0	40.0	—	—
4	WSC048E4	BAYHTRE406*	6.0	1	20.4	25.0	—	—
4	WSC048E4	BAYHTRE412*	12.0	2	29.4	30.0	—	—
4	WSC048E4	BAYHTRE418*	17.4	2	37.6	40.0	—	—
5	WSC060E4	BAYHTRX406*	6.0	1	23.7	30.0	—	—
5	WSC060E4	BAYHTRX412*	12.0	2	32.7	35.0	—	—
5	WSC060E4	BAYHTRX418*	17.4	2	40.8	45.0	—	—
5	WSC060E4	BAYHTRX423*	23.0	2	49.3	50.0	—	—
6	WSC072E4	BAYHTRW409A	9.0	1	33.8	40	34.4	40
6	WSC072E4	BAYHTRW418A	18.0	1	47.4	50	48.0	50
6	WSC072E4	BAYHTRW427A	27.0	2	60.9	70	61.5	70
6	WSC072E4	BAYHTRW436A	36.0	2	74.4	80	75.0	80
7½	WSC090E4	BAYHTRU409A	9.0	1	32.5	40	35.4	40
7½	WSC090E4	BAYHTRU418A	18.0	1	46.1	50	49.0	50

continued on next page



Electrical Data

Table 41. Unit wiring with electric heat (single point connection) - standard efficiency (continued)

Tons	Unit Model Number	Heater Model Number	Heater kW Rating ^(a)	Control Stages	Standard Indoor Motor		Oversized Indoor Motor	
					MCA	Max Fuse Size or Max Circuit Breaker	MCA	Max Fuse Size or Max Circuit Breaker
460 Volts Three Phase								
7½	WSC090E4	BAYHTRU427A	27.0	2	59.6	60	62.5	70
7½	WSC090E4	BAYHTRU436A	36.0	2	73.1	80	76.0	80
10	WSC120E4	BAYHTRB418A	18.0	1	53.2	60	—	—
10	WSC120E4	BAYHTRB427A	27.0	2	66.7	70	—	—
10	WSC120E4	BAYHTRB436A	36.0	2	80.2	90	—	—
10	WSC120E4	BAYHTRB454A	54.0	2	91.1	100	—	—
575 Volts Three Phase								
3	WSC036EW	BAYHTREW06*	6.0	1	15.8	20.0	—	—
3	WSC036EW	BAYHTREW12*	12.0	2	22.9	25.0	—	—
3	WSC036EW	BAYHTREW18*	17.4	2	29.4	30.0	—	—
4	WSC048EW	BAYHTREW06*	6.0	1	17.3	20.0	—	—
4	WSC048EW	BAYHTREW12*	12.0	2	24.4	25.0	—	—
4	WSC048EW	BAYHTREW18*	17.4	2	30.9	35.0	—	—
5	WSC060EW	BAYHTRXW06*	6.0	1	18.2	20.0	—	—
5	WSC060EW	BAYHTRXW12*	12.0	2	25.4	30.0	—	—
5	WSC060EW	BAYHTRXW18*	17.4	2	31.9	35.0	—	—
5	WSC060EW	BAYHTRXW23*	23.0	2	38.6	40.0	—	—
6	WSC072EW	BAYHTRWW18A	18.0	1	34.0	35	34.9	35
6	WSC072EW	BAYHTRWW27A	27.0	2	44.9	45	45.8	50
6	WSC072EW	BAYHTRWW36A	36.0	2	55.6	60	56.5	60
7½	WSC090EW	BAYHTRUW18A	18.0	1	36.1	40	38.1	40
7½	WSC090EW	BAYHTRUW27A	27.0	2	47.0	50	49.0	50
7½	WSC090EW	BAYHTRUW36A	36.0	2	57.7	60	59.7	60
10	WSC120EW	BAYHTRBW18A	18.0	1	42.7	45	—	—
10	WSC120EW	BAYHTRBW36A	36.0	2	64.4	70	—	—
10	WSC120EW	BAYHTRBW54A	54.0	2	73.1	80	—	—

(a) No optional motors available for 3-5 tons. The standard motor for 1-phase models is a Multispeed, Direct Drive Motor. The Standard Motor for the 3-phase models is a Belt Drive Motor.

Electrical Data

Table 42. Electrical characteristics - compressor motor and condenser motor - 60 cycle - standard efficiency

Unit Model		Compressor Motors							Condenser Fan Motors					
		No.	Volts	Phase	hp ^(b)	rpm	Amps ^(a)		No.	Volts	Phase	hp	Amps ^(a)	
							RLA	LRA					FLA	LRA
3	WSC036E3	1	208-230	3	3.2	3500	13.5	88.0	1	208-230	1	0.25	2.0	4.4
3	WSC036E4	1	460	3	3.2	3500	6.0	44.0	1	460	1	0.25	0.9	2.2
3	WSC036EW	1	575	3	3.2	3500	4.9	34.0	1	575	1	0.25	0.7	1.4
4	WSC048E3	1	208-230	3	3.8	3500	14.5	98.0	1	208-230	1	0.40	2.5	6.6
4	WSC048E4	1	460	3	3.8	3500	6.3	55.0	1	460	1	0.40	1.0	2.8
4	WSC048EW	1	575	3	3.8	3500	6.0	41.0	1	575	1	0.40	0.8	2.0
5	WSC060E3	1	208-230	3	4.7	3500	18.1	137.0	1	208-230	1	0.40	2.5	6.6
5	WSC060E4	1	460	3	4.7	3500	9.0	62.0	1	460	1	0.40	1.0	2.8
5	WSC060EW	1	575	3	4.7	3500	6.8	50.0	1	575	1	0.40	0.8	2.0
6	WSC072E3	1	208-230	3	5.9	3500	22.4	149.0	1	208-230	1	0.70	3.3	9.5
6	WSC072E4	1	460	3	5.9	3500	10.6	100.0	1	460	1	0.70	1.8	5.5
6	WSC072EW	1	575	3	5.9	3500	7.7	54.0	1	575	1	0.70	1.3	3.2
7½	WSC090E3	1	208-230	3	7.3	3500	25.0	164.0	1	208-230	1	0.75	3.5	9.3
7½	WSC090E4	1	460	3	7.3	3500	12.2	100.0	1	460	1	0.75	2.0	6.2
7½	WSC090EW	1	575	3	7.3	3500	9.0	78.0	1	575	1	0.75	1.8	5.4
10	WSC120E3	1	208-230	3	4.7/4.7	3500/3500	18.1/18.1	137.0/137.0	1	208-230	3	0.75	2.7	9.8
10	WSC120E4	1	460	3	4.7/4.7	3500/3500	9.0/9.0	62.0/62.0	1	460	3	0.75	1.5	4.8
10	WSC120EW ^(c)	1	575	3	4.7/4.7	3500/3500	6.8/6.8	50.0/50.0	1	460	3	0.75	1.5	4.8

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

(b) hp for each compressor.

(c) WSC120EW utilize 460 volt condenser fan motors

Electrical Data

Table 43. Electrical characteristics - standard evaporator fan motor - 60 cycle - direct or belt drive standard efficiency

Tons	Unit Model Number	Direct or Belt Drive	No.	Volts	Phase	hp	Amps	
							FLA	LRA
3	WSC036E3	Belt Drive	1	208-230	3	1.00	5.0	32.2
3	WSC036E4	Belt Drive	1	460	3	1.00	2.5	16.1
3	WSC036EW	Belt Drive	1	575	3	1.00	1.7	13.2
4	WSC048E3	Belt Drive	1	208-230	3	1.00	5.0	32.2
4	WSC048E4	Belt Drive	1	460	3	1.00	2.5	16.1
4	WSC048EW	Belt Drive	1	575	3	1.00	1.7	13.2
5	WSC060E3	Belt Drive	1	208-230	3	1.00	5.0	32.2
5	WSC060E4	Belt Drive	1	460	3	1.00	2.5	16.1
5	WSC060EW	Belt Drive	1	575	3	1.00	1.7	13.2
6	WSC072E3	Belt Drive	1	208-230	3	1.0	4.0-5.0	24.5
6	WSC072E4	Belt Drive	1	460	3	1.0	2.5	12.3
6	WSC072EW	Belt Drive	1	575	3	1.0	1.5	11.3
7½	WSC090E3	Belt Drive	1	208-230	3	1.0	3.6-3.5	12.5
7½	WSC090E4	Belt Drive	1	460	3	1.0	1.7	12.5
7½	WSC090EW	Belt Drive	1	575	3	1.0	1.4	10.0
10	WSC120E3	Direct Drive	1	208-230	3	3.8	8.5-8.5	—
10	WSC120E4	Direct Drive	1	460	3	3.6	4.3	—
10	WSC120EW ^(a)	Direct Drive	1	460	3	3.6	4.3	—

(a) WSC120EW utilize 460V Evaporator Motors.

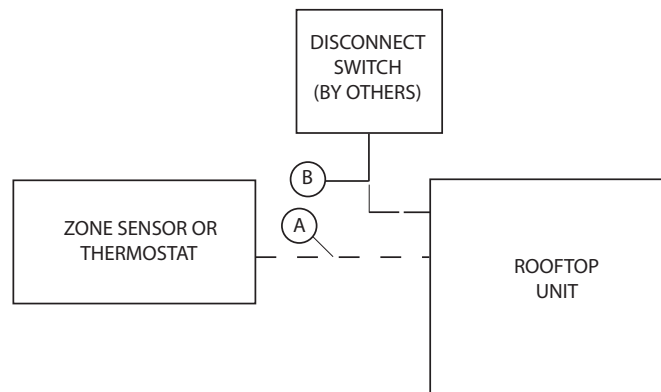
Table 44. Electrical characteristics - oversized evaporator fan motor - 60 cycle - belt drive - standard efficiency

Tons	Unit Model Number	Direct or Belt Drive	No.	Volts	Phase	hp	Amps	
							FLA	LRA
6	WSC072E3	Belt Drive	1	208-230	3	2.0	6.3-6.2	48.0
6	WSC072E4	Belt Drive	1	460	3	2.0	3.1	24.0
6	WSC072EW	Belt Drive	1	575	3	2.0	2.4	16.8
7½	WSC090E3	Belt Drive	1	208-230	3	3.0	9.4-9.2	52.4
7½	WSC090E4	Belt Drive	1	460	3	3.0	4.6	26.3
7½	WSC090EW	Belt Drive	1	575	3	3.0	3.4	29.4
10	WSC120E3	—	—	—	—	—	—	—
10	WSC120E4	—	—	—	—	—	—	—
10	WSC120EW	—	—	—	—	—	—	—

Jobsite Connections

Table 45. Typical Number of Wires

Zone Sensors		
A	Manual Changeover.....	4
	Manual/Auto Changeover.....	5
	Manual/Auto Changeover with Status Indication LED's.....	10
	Programmable Night Setback with Status Indication LED's.....	7
Thermostats		
A	3 Wires, 24V, Cooling only	
	4 Wires, 24V, with Electric Heat	
B	3 Power Wires + 1 Ground Wire (3-phase)	
	2 Power Wires + 1 Ground Wire (1-phase)	



For specific wiring information, see the installation instructions.

All wiring except power wire is low voltage.

All customer supplied wiring to be copper and must conform to applicable electrical codes (such as NEC or CEC) and local electric codes. Wiring shown dotted is to be furnished and installed by the customer.

Dimensional Data

Figure 1. Heat pump - 3-4 tons standard efficiency

Note: All dimensions are in inches/millimeters.

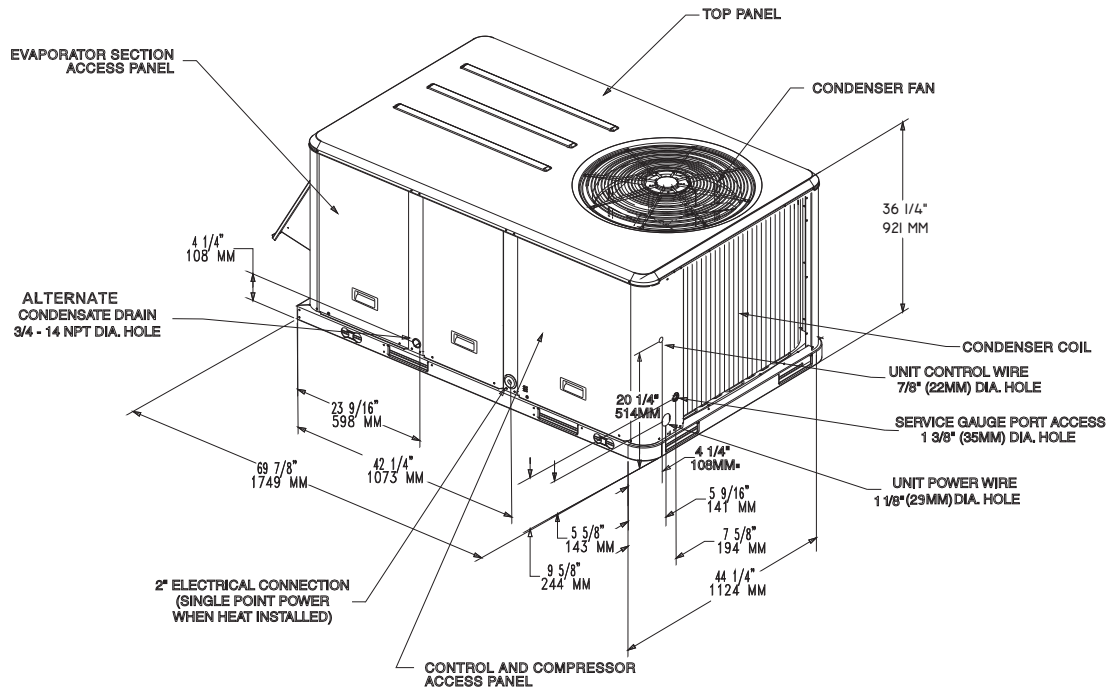


Figure 2. Heat pump - 3-4 tons standard efficiency - downflow airflow supply/return - through-the-base utilities

Note: All dimensions are in inches/millimeters.

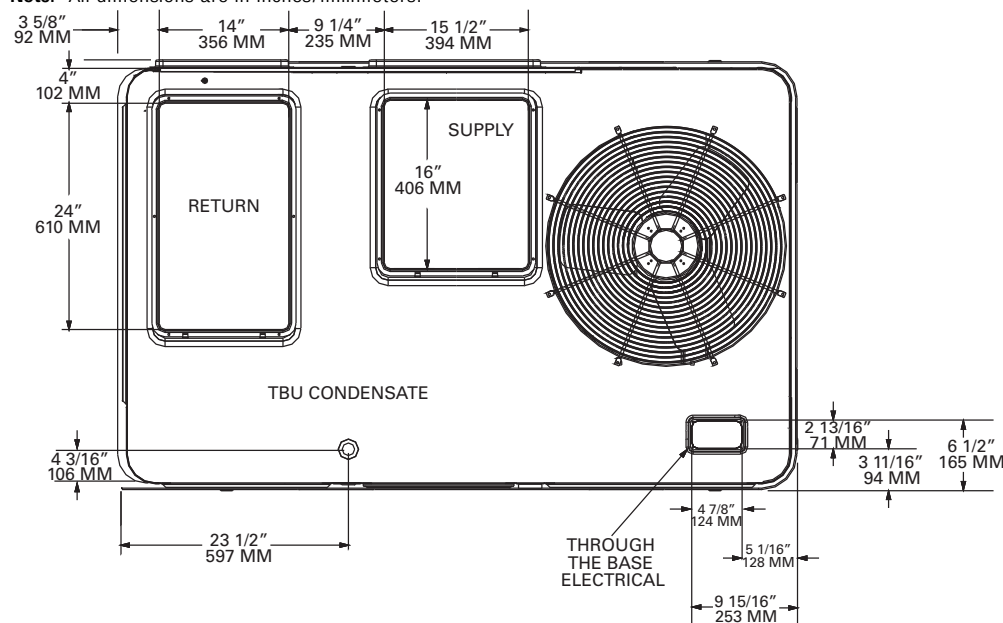


Figure 3. Heat pump - 3-4 tons standard efficiency - horizontal airflow supply/return

Note: All dimensions are in inches/millimeters.

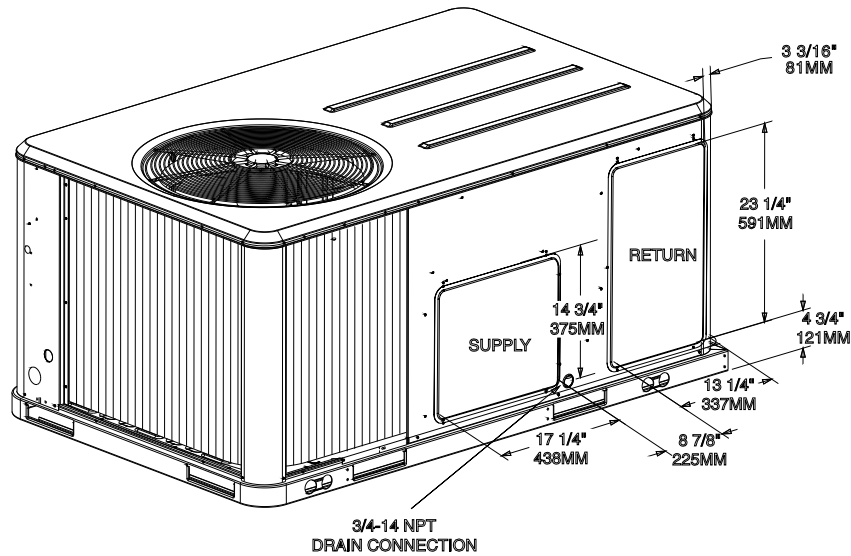
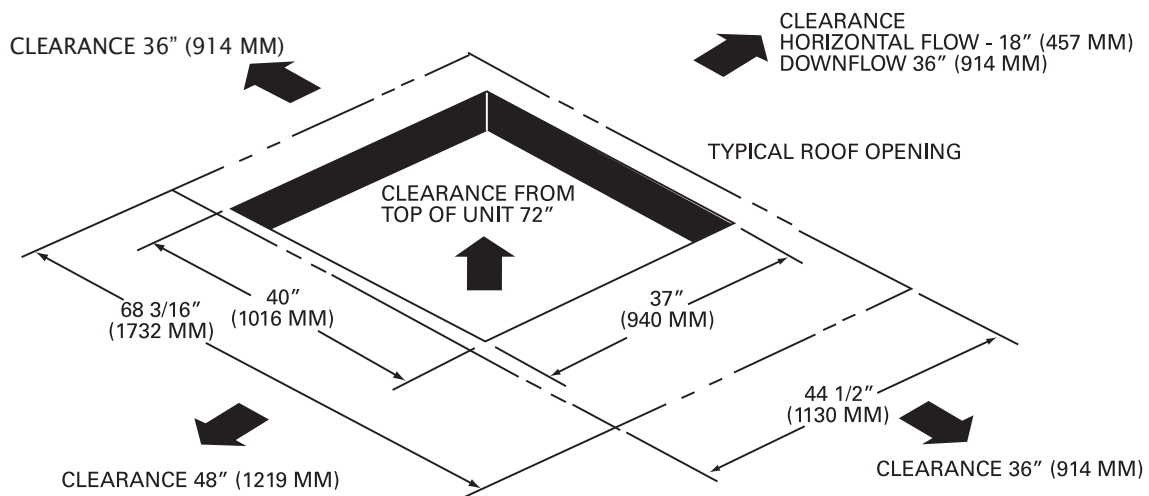


Figure 4. Heat pump - 3-4 tons standard efficiency - unit clearance and roof opening

Note: All dimensions are in inches/millimeters.



Dimensional Data

Figure 5. Heat pump - 3-4 tons standard efficiency - roof curb

Note: All dimensions are in inches/millimeters.

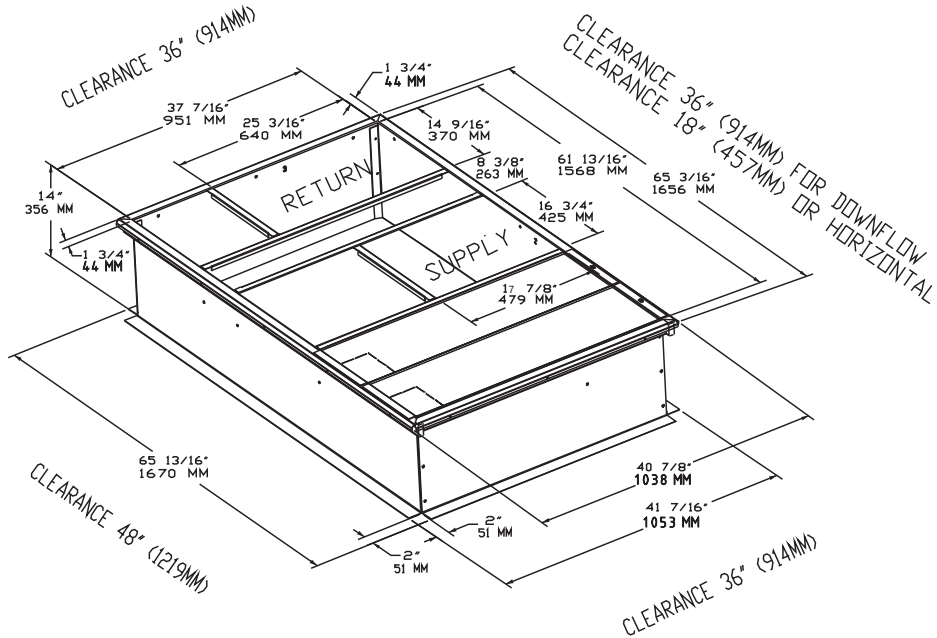
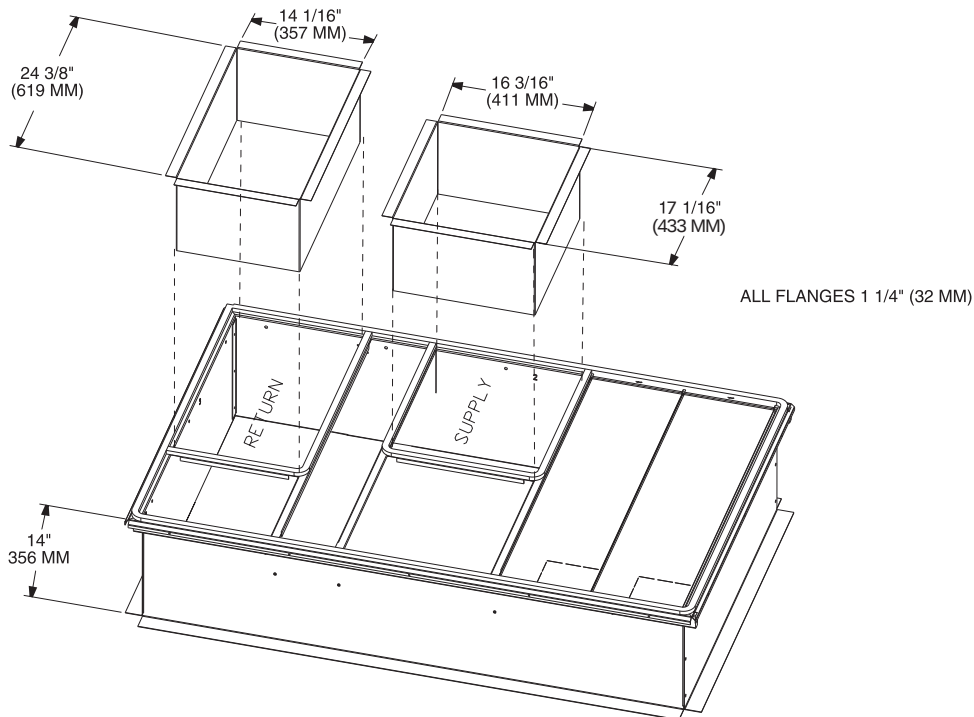


Figure 6. Heat pump - 3-4 tons standard efficiency - downflow duct connections - field fabricated

Note: All dimensions are in inches/millimeters.



Dimensional Data

Figure 7. Heat pump - 3-4 tons standard efficiency economizer, manual or motorized fresh air damper; power exhaust

Note: All dimensions are in inches/millimeters.

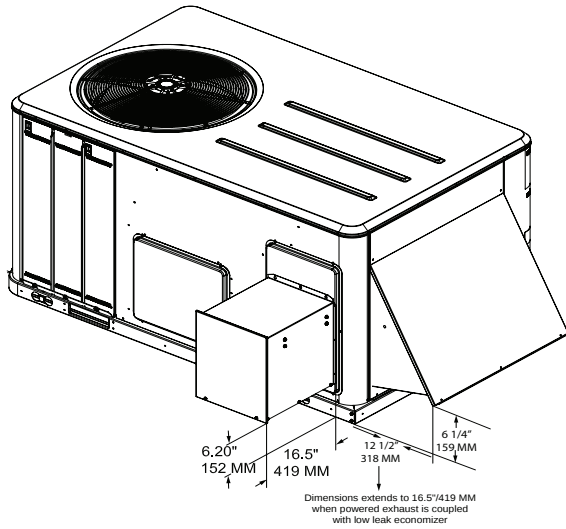


Figure 8. Heat pump 3-4 tons standard efficiency economizer & barometric relief damper hood

Note: All dimensions are in inches/millimeters.

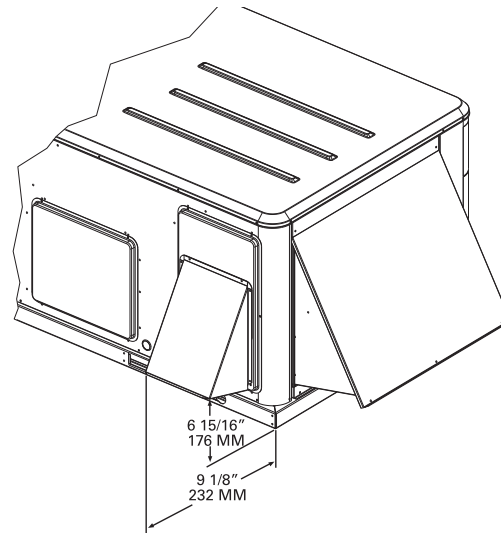
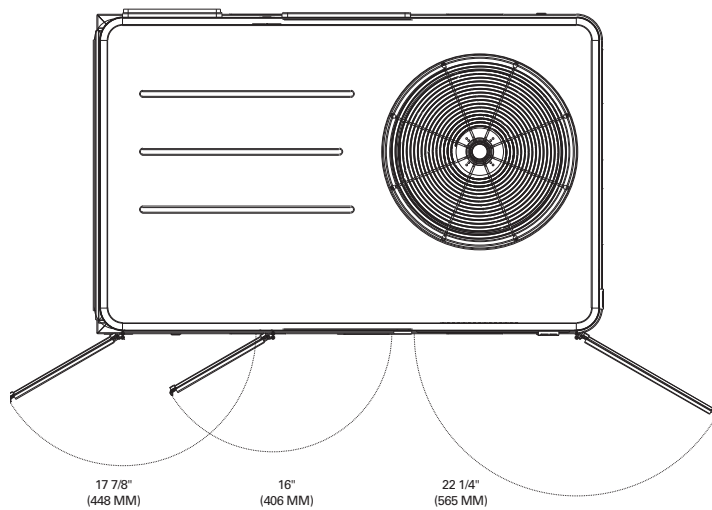


Figure 9. Heat pump - 3-4 tons standard efficiency swing diameter for hinged door(s) option

Note: All dimensions are in inches/millimeters.



Dimensional Data

Figure 10. Heat pumps - 5-6 tons standard efficiency

Note: All dimensions are in inches/millimeters.

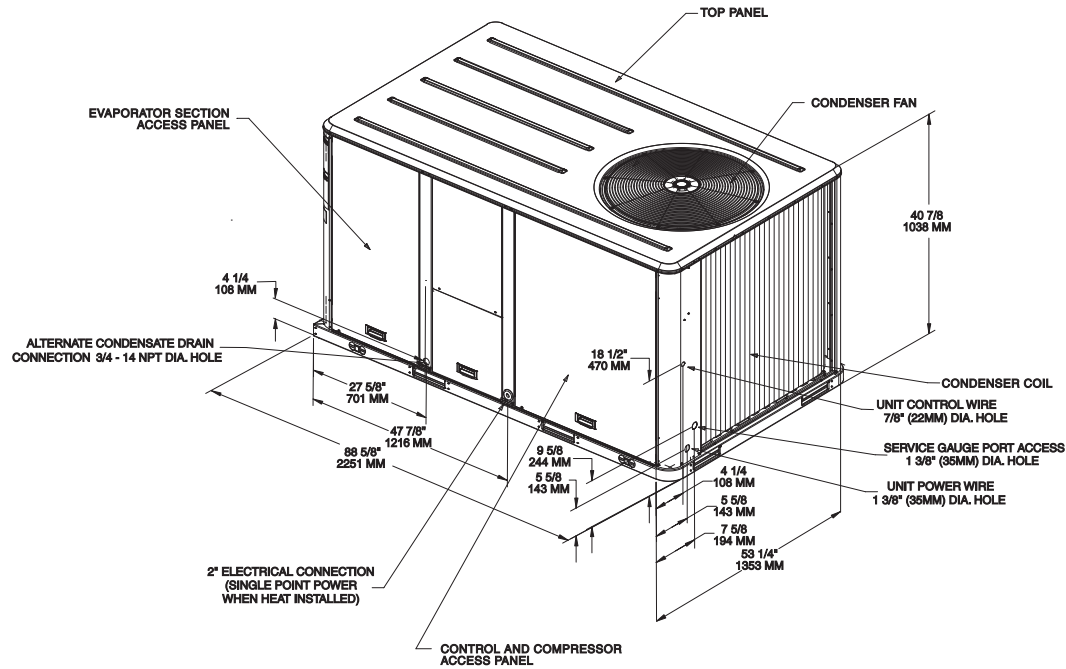


Figure 11. Heat pumps - 5-6 tons - downflow airflow supply/return - through-the-base utilities

Note: All dimensions are in inches/millimeters.

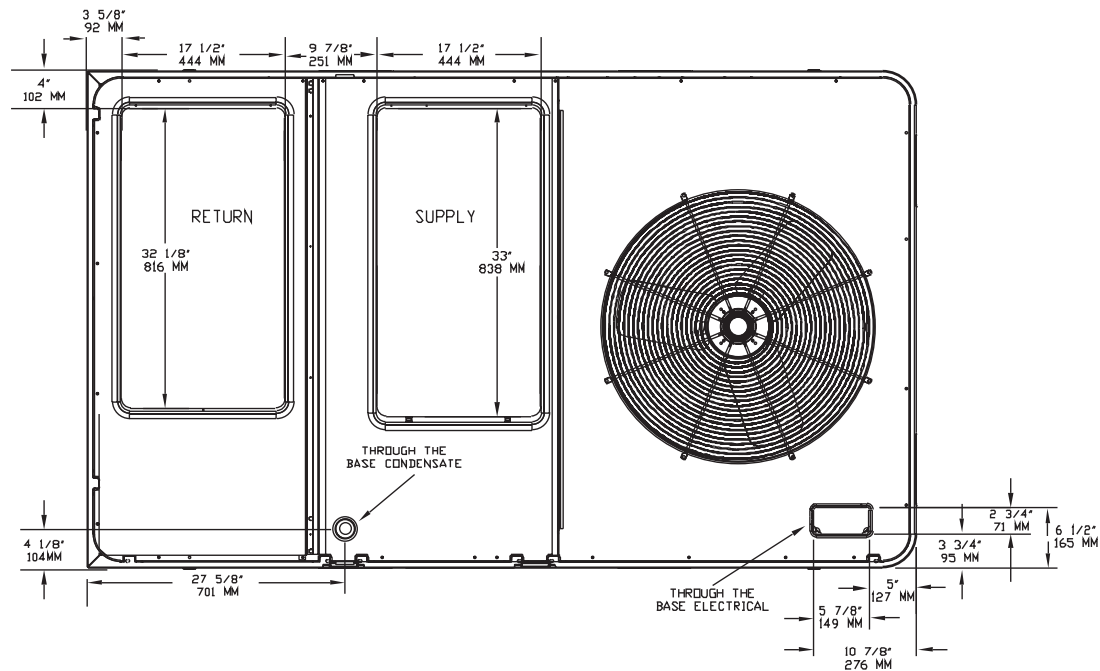


Figure 12. Heat pumps - 5-6 tons - horizontal airflow supply and return

Note: All dimensions are in inches/millimeters.

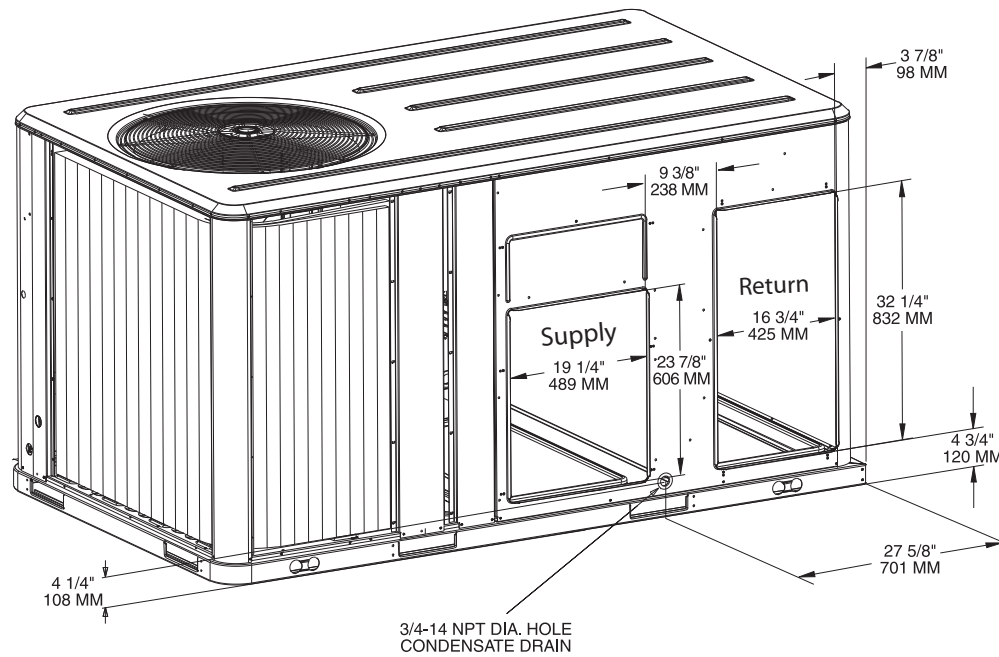
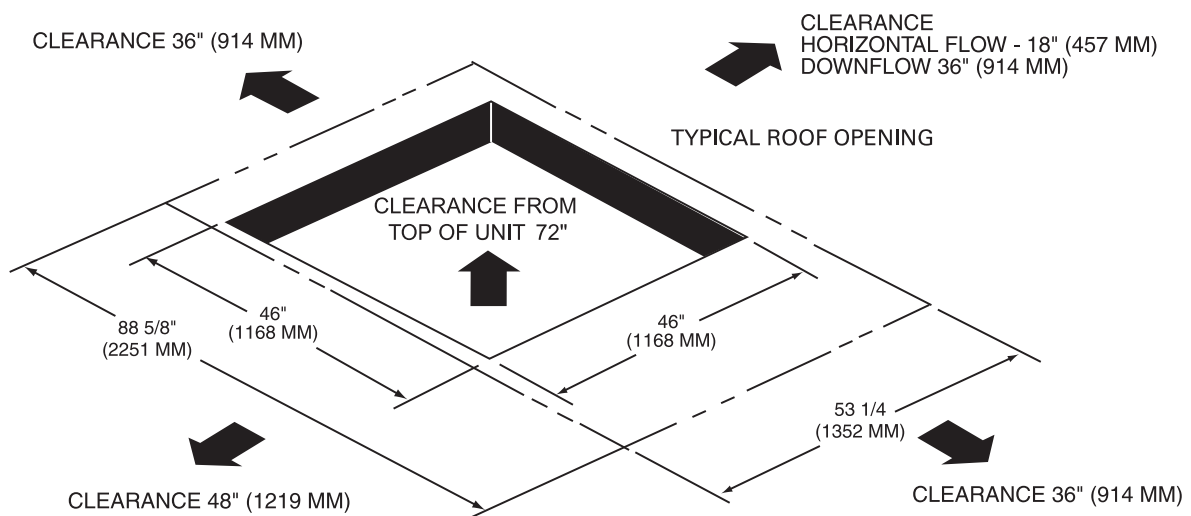


Figure 13. Heat pumps - 5-6 tons - unit clearance and roof opening

Note: All dimensions are in inches/millimeters.



Dimensional Data

Figure 14. Heat pumps - 5-6 tons - roof curb

Note: All dimensions are in inches/millimeters.

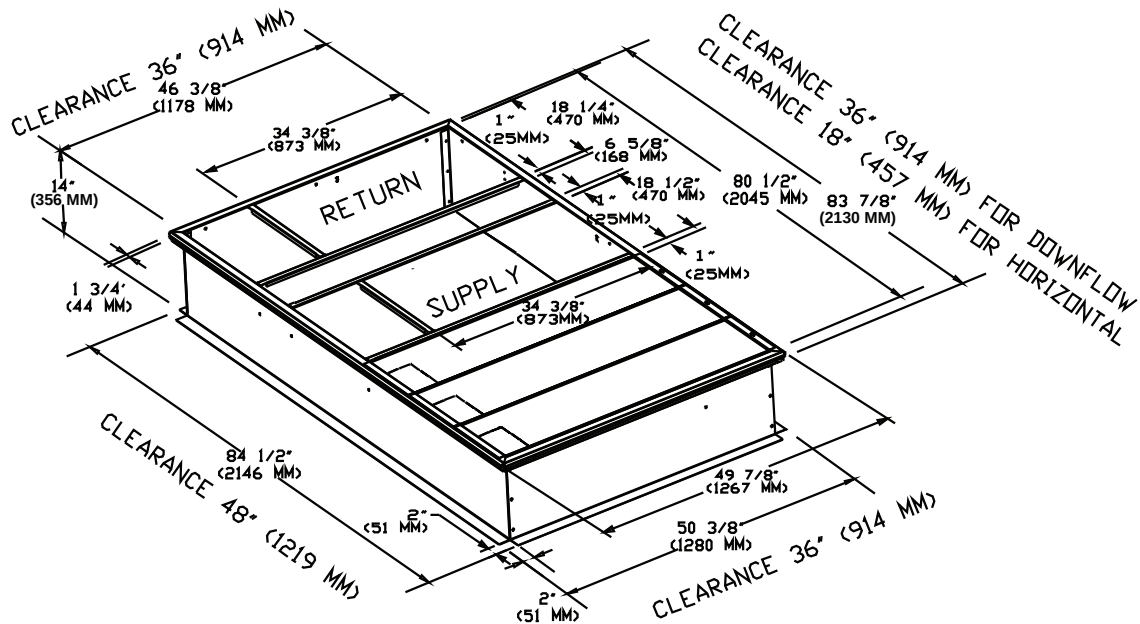
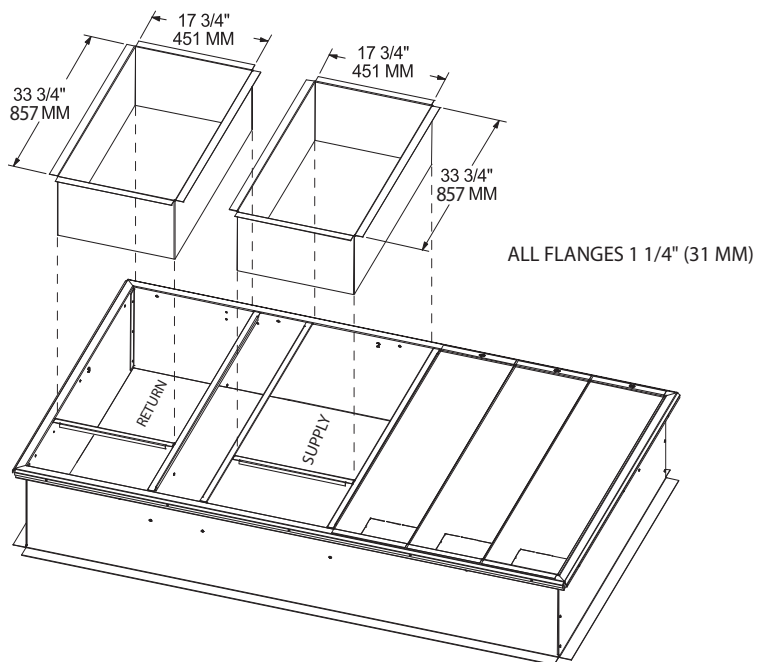


Figure 15. Heat pumps - 5-6 tons - downflow duct connections field fabricated

Note: See p. 17 for duct clearance to combustible materials.

Note: All dimensions are in inches/millimeters.



Dimensional Data

Figure 16. Heat pump - 3-4 tons standard efficiency power exhaust

Note: All dimensions are in inches/millimeters.

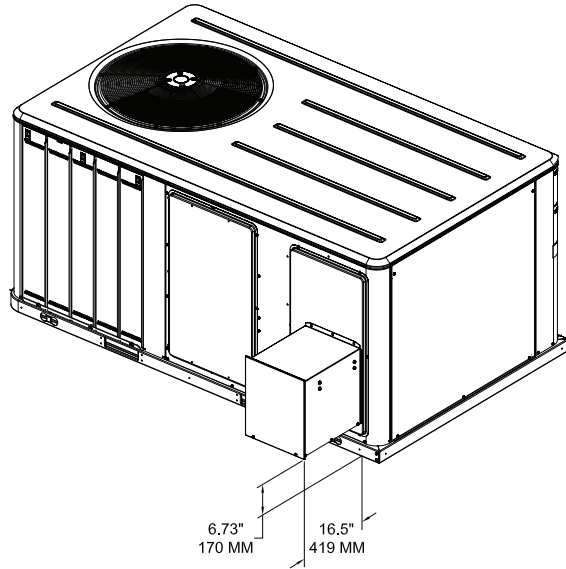


Figure 17. Heat pumps - 5-6 tons - economizer, manual or motorized fresh air damper

Note: All dimensions are in inches/millimeters.

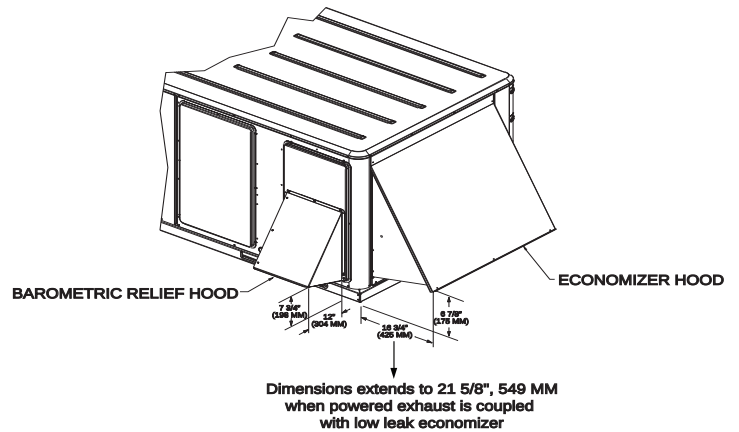
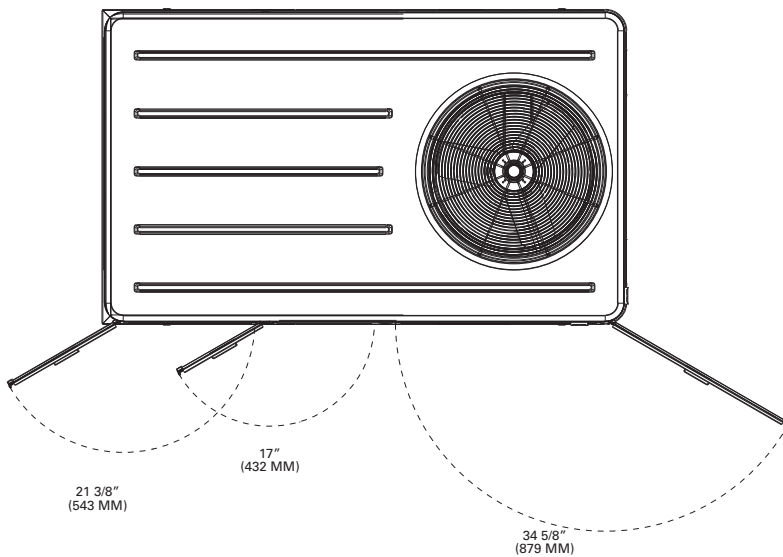


Figure 18. Heat pumps - 5-6 tons - swing diameter for hinged door(s) option

Note: All dimensions are in inches/millimeters.



Dimensional Data

Figure 19. Heat pump - 7½ tons standard efficiency

Note: All dimensions are in inches/millimeters.

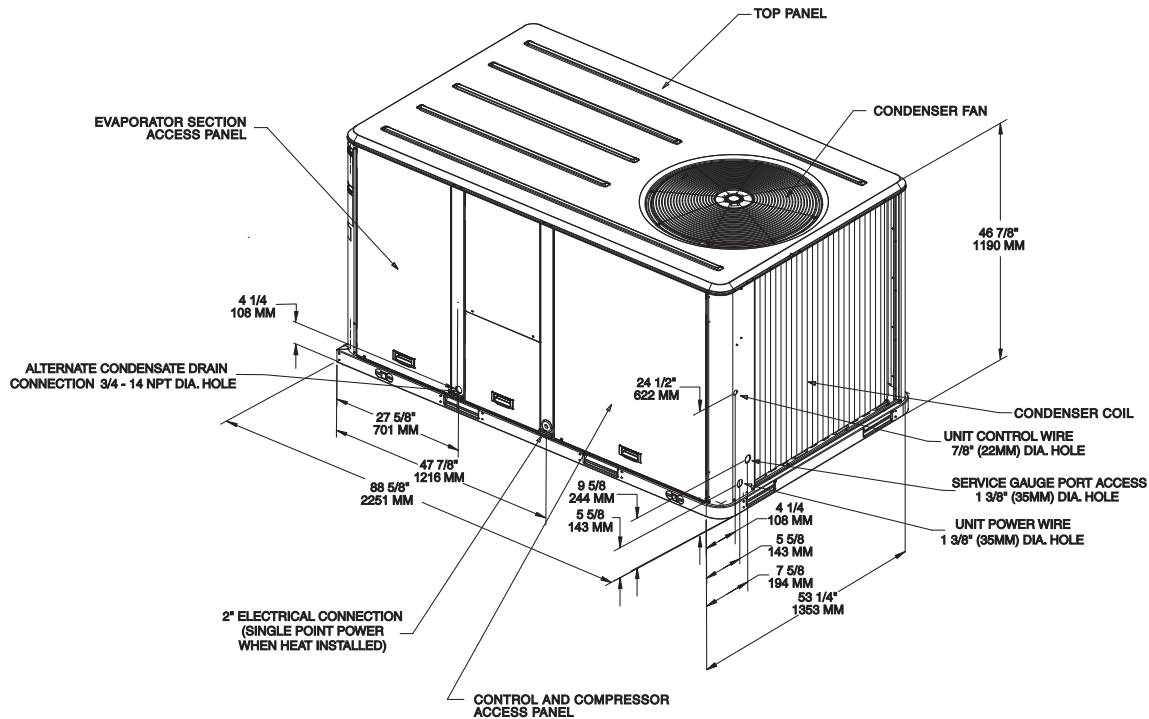


Figure 20. Heat pump - 7½ tons standard efficiency - downflow airflow supply/return through-the-base utilities

Note: All dimensions are in inches/millimeters.

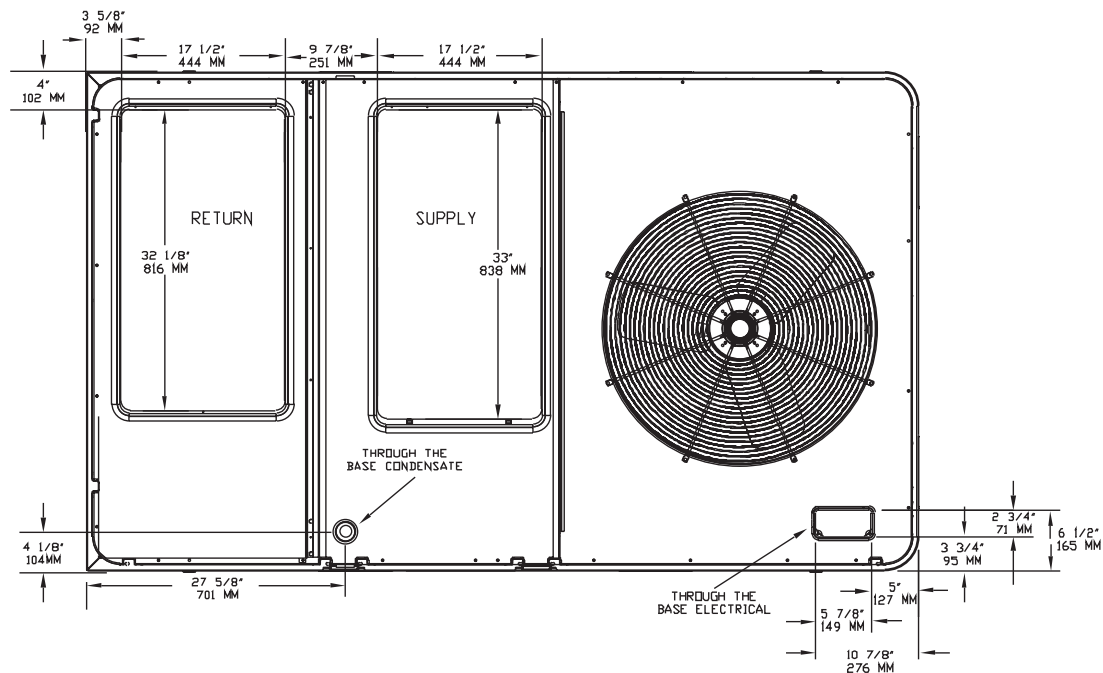


Figure 21. Heat pump - 7½ tons standard efficiency - horizontal airflow supply and return

Note: All dimensions are in inches/millimeters.

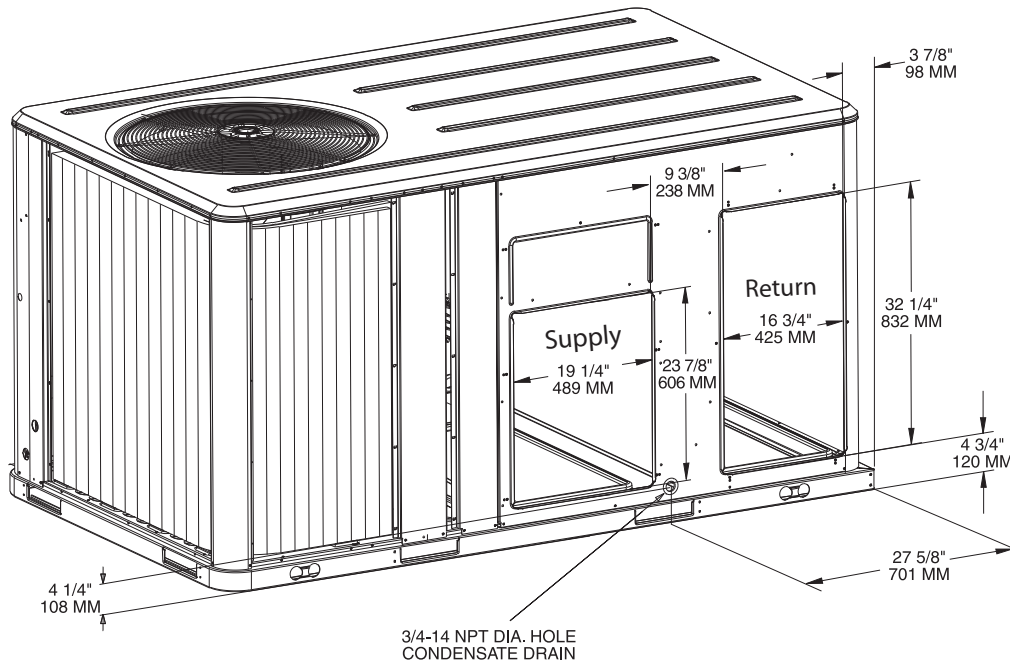
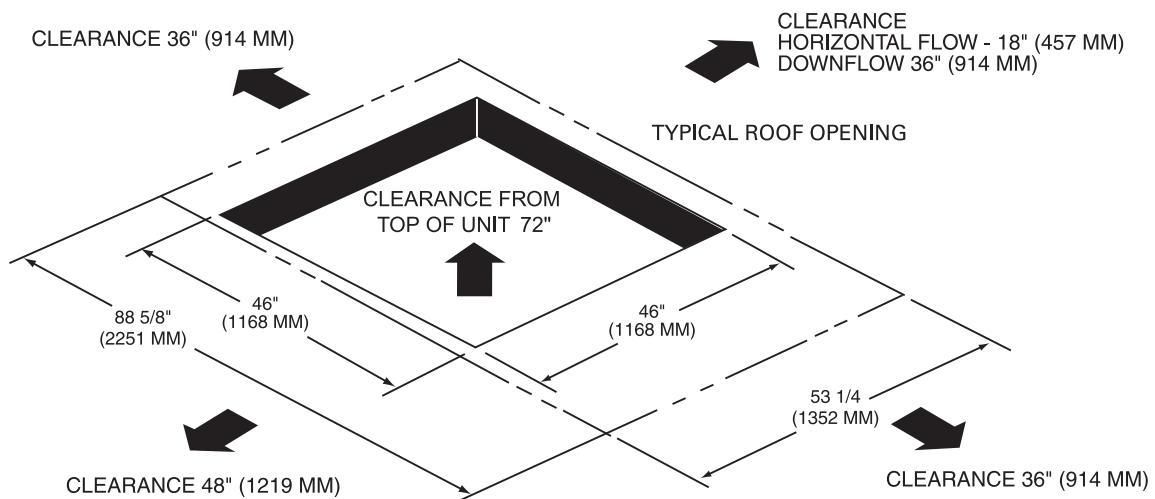


Figure 22. Heat pump - 7½ tons standard efficiency - unit clearance and roof opening

Note: All dimensions are in inches/millimeters.



Dimensional Data

Figure 23. Heat pump - 7½ tons standard efficiency - roof curb

Note: All dimensions are in inches/millimeters.

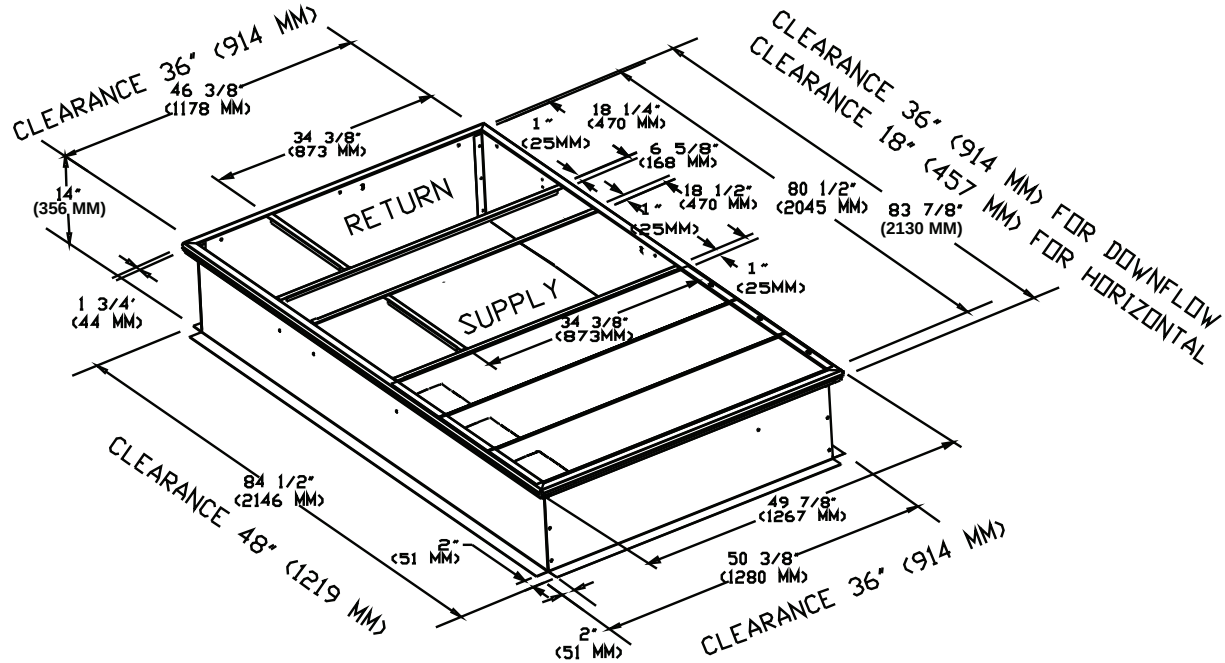
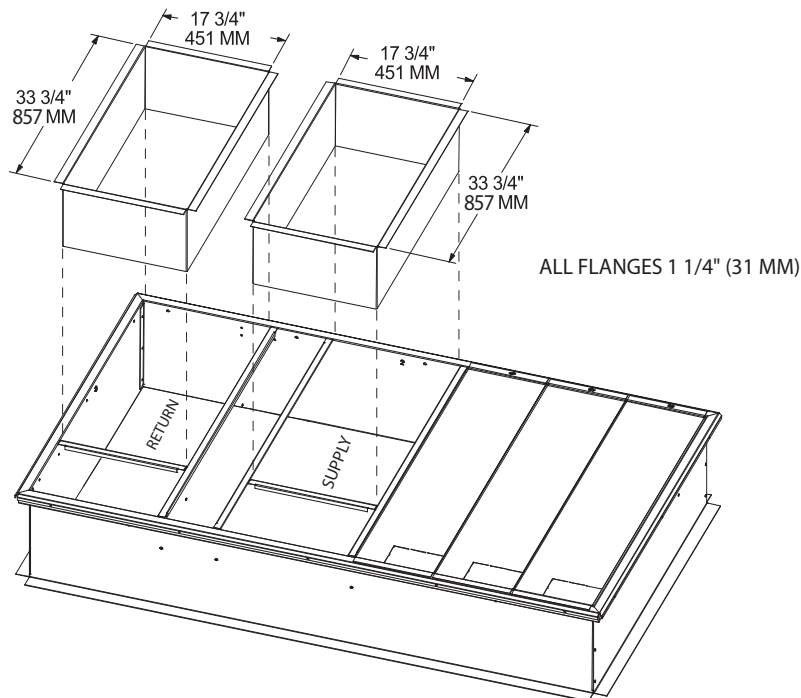


Figure 24. Heat pump - 7½ tons standard efficiency downflow - duct connections field fabricated

Note: See p. 17 for duct clearance to combustible materials.

Note: All dimensions are in inches/millimeters.



Dimensional Data

Figure 25. Heat pump - 7½ tons standard efficiency power exhaust

Note: All dimensions are in inches/millimeters.

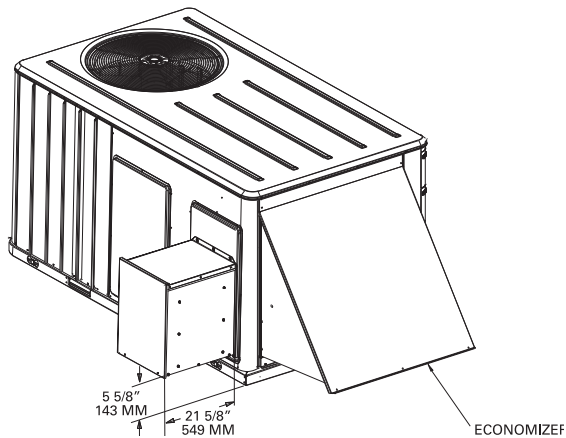


Figure 26. Heat pump - 7½ tons standard efficiency economizer, manual or motorized fresh air damper

Note: All dimensions are in inches/millimeters.

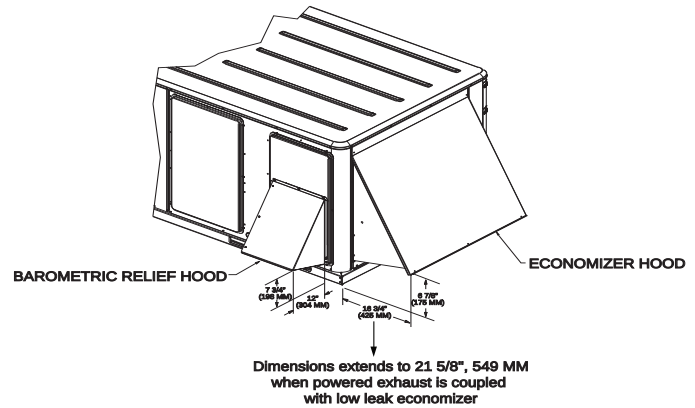
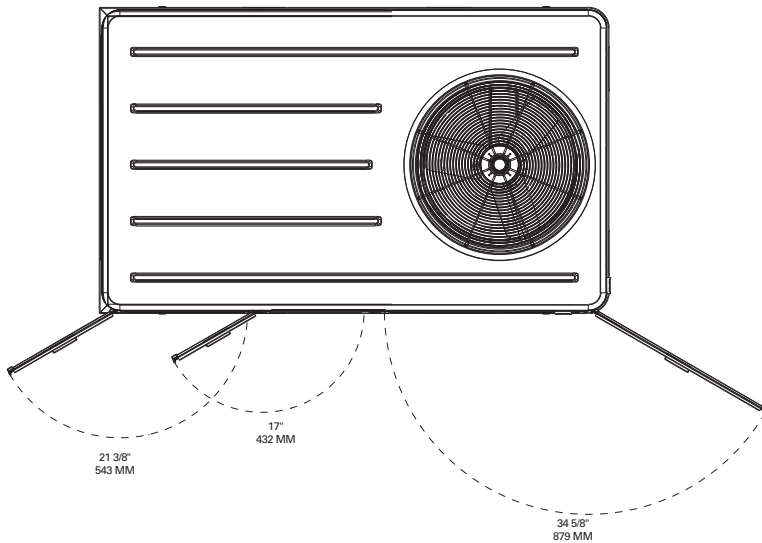


Figure 27. Heat pump - 7½ tons standard efficiency swing diameter for hinged door(s) option

Note: All dimensions are in inches/millimeters.



Dimensional Data

Figure 28. Heat pump - 10 tons standard efficiency

Notes:

1. All dimensions are in inches/millimeters.
2. 2" Electrical Connection: Single Point Power When Heat Installed (WSC Models only.)

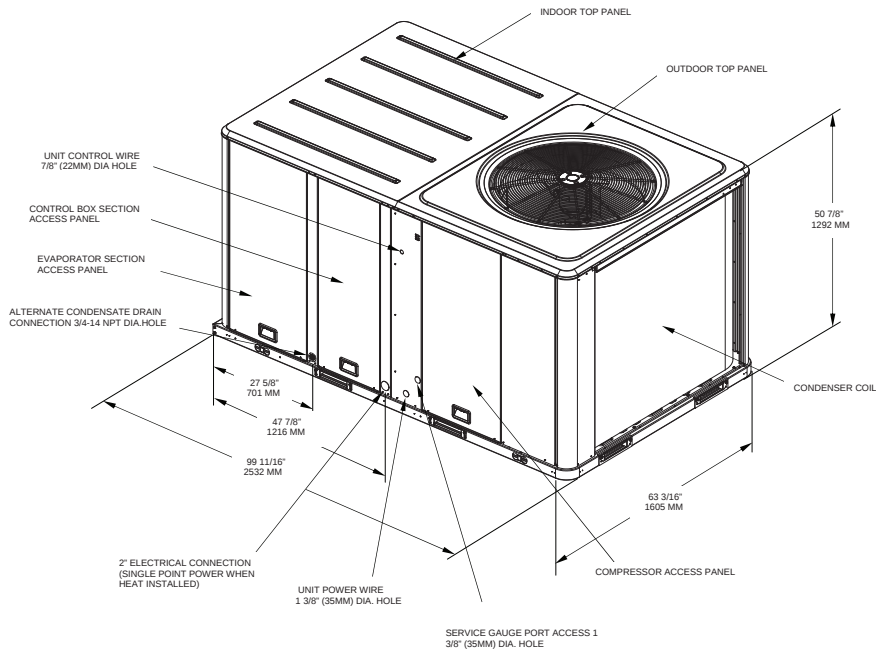


Figure 29. Heat pump - 10 tons standard efficiency - downflow airflow supply/return through-the-base utilities

Notes:

1. All dimensions are in inches/millimeters.
2. 2" Electrical Connection: Single Point Power When Heat Installed (WSC Models only.)

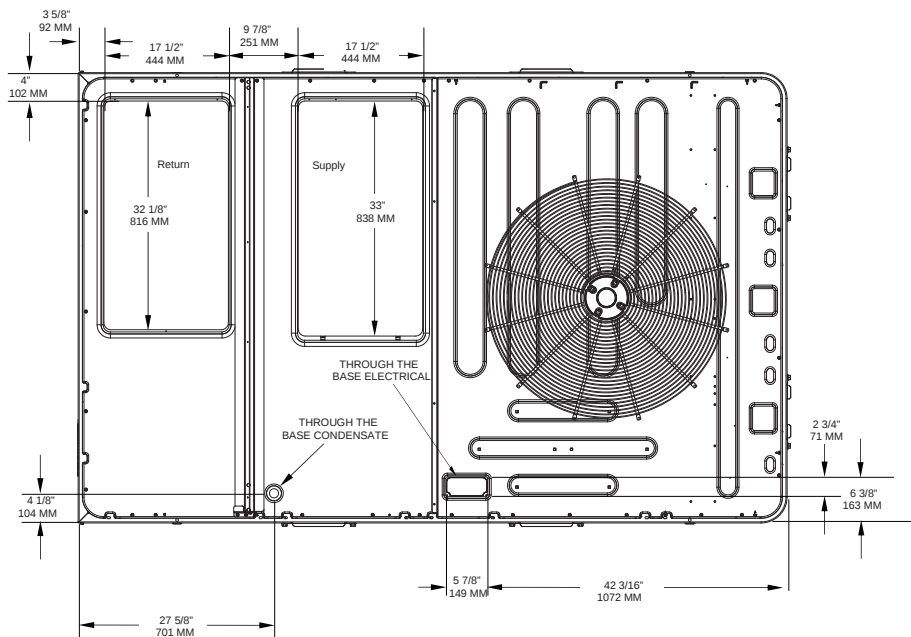


Figure 30. Heat pump - 10 tons standard efficiency - horizontal airflow supply/return

Notes:

1. All dimensions are in inches/millimeters.
2. 2" Electrical Connection: Single Point Power When Heat Installed (WSC Models only.)

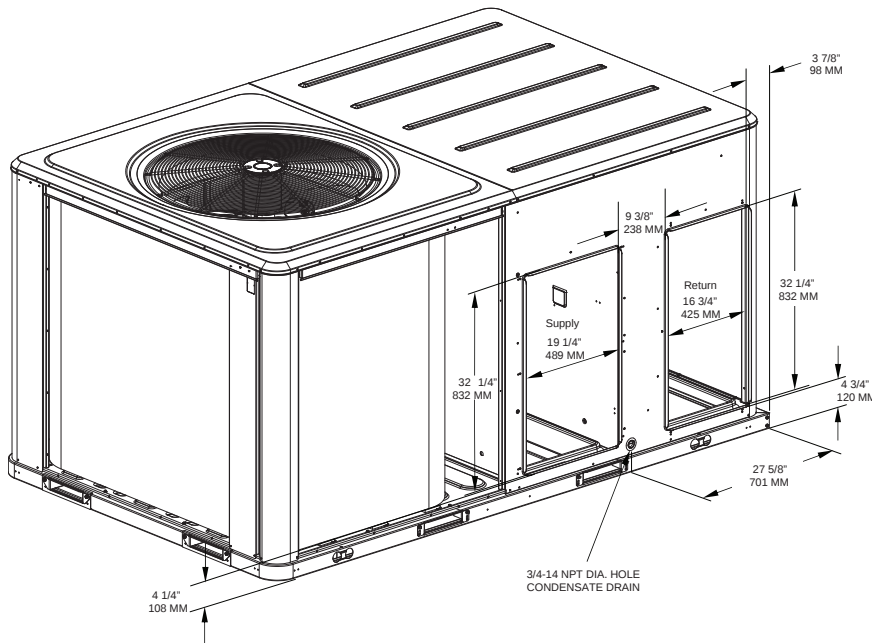
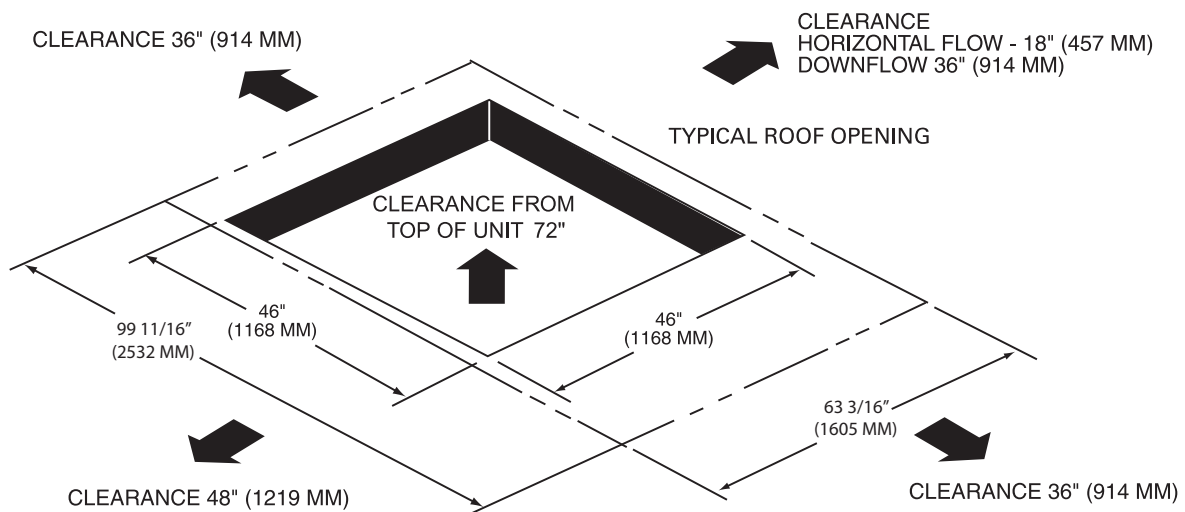


Figure 31. Heat pump - 10 tons standard efficiency - unit clearance and roof opening

Notes:

1. All dimensions are in inches/millimeters.
2. 2" Electrical Connection: Single Point Power When Heat Installed (WSC Models only.)



Notes:

1. All dimensions are in inches/millimeters.
2. 2" Electrical Connection: Single Point Power When Heat Installed (WSC Models only.)



1. All dimensions are in inches/millimeters.
2. 2" Electrical Connection: Single Point Power When Heat Installed (WSC Models only.)

Note: See p. 17 for duct clearance to combustibles.



Weights

Table 46. Maximum unit & corner weights (lbs) and center of gravity dimensions (in.)

Tons	Unit Model No.	Maximum Model Weights ^(a)		Corner Weights ^(b)				Center of Gravity (in.)	
		Shipping	Net	A	B	C	D	Length	Width
3	WSC036E	589	514	177	107	113	117	29	20
4	WSC048E	600	525	181	109	115	119	29	20
5	WSC060E	825	682	228	177	114	163	38	24
6	WSC072E	835	740	235	196	140	168	40	22
7½	WSC090E	902	804	255	217	153	180	41	22
10	WSC120E	1388	1199	342	328	259	270	49	28

(a) Weights are approximate.

(b) Corner weights are given for information only.

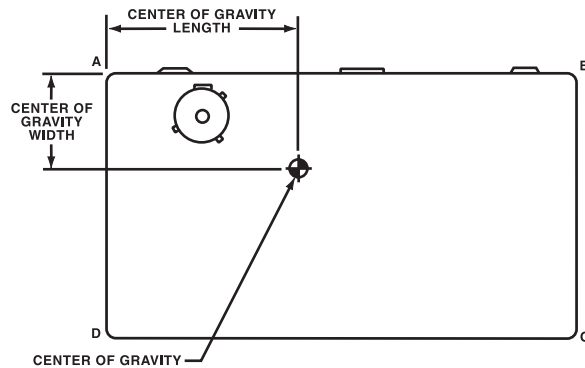


Table 47. Factory installed options (fiops)/accessory net weights (lbs)^{(a),(b)}

Accessory	WSC036E-048E	WSC***E	WSC072E-090E	WSC120E
	Net Weight	Net Weight	Net Weight	Net Weight
	3-4 Tons	5 Tons	6-7½ Tons	10 Tons
460 V IDM Transformer ^(c)	29	29	—	—
Barometric Relief	7	10	10	10
Belt Drive Option (3 phase only)	31	31	—	—
Coil Guards	12	20	20	30
Economizer	26	36	36	36
Electric Heaters ^(d)	15	30	30	40
Hinged Doors	10	12	12	12
Low Leak Economizer	68	93	93	93
Manual Outside Air Damper	16	26	26	26
Motorized Outside Air Damper	20	30	30	30
Oversized Motor	5	8	8	—
Powered Convenience Outlet	38	38	38	50
Powered Exhaust	—	80	80	80
Roof Curb	61	78	78	89
Smoke Detector, Supply	5	5	5	5
Smoke Detector, Return	7	7	7	7
Through-the-Base Electrical	8	13	8	13
Unit Mounted Circuit Breaker	5	5	5	5
Unit Mounted Disconnect	5	5	5	5

(a) Weights for options not listed are <5 lbs.

(b) Net weight should be added to unit weight when ordering factory-installed accessories.

(c) Apply weight with all 460V units with the Standard Direct Drive Motor.

(d) Applicable to Heat Pump units only.



Mechanical Specifications

General

The units shall be convertible airflow. The operating range shall be between 115°F and 0°F in cooling as standard from the factory for units with microprocessor controls. Cooling performance shall be rated in accordance with AHRI testing procedures. All units shall be factory assembled, internally wired, fully charged with R-410A, and 100 percent run tested to check cooling operation, fan and blower rotation, and control sequence before leaving the factory. Wiring internal to the unit shall be colored and numbered for simplified identification. Units shall be cULus listed and labeled, classified in accordance for Central Cooling Air Conditioners.

Casing

Unit casing shall be constructed of zinc coated, heavy gauge, galvanized steel. Exterior surfaces shall be cleaned, phosphatized, and finished with a weather-resistant baked enamel finish. Unit's surface shall be tested 500 hours in a salt spray test in compliance with ASTM B117. Cabinet construction shall allow for all maintenance on one side of the unit. Service panels shall have lifting handles and be removed and reinstalled by removing two fasteners while providing a water and air tight seal. All exposed vertical panels and top covers in the indoor air section shall be insulated with a cleanable foil-faced, fire-retardant permanent, odorless glass fiber material. The base of the unit shall be insulated with 1/8 inch, foil-faced, closed-cell insulation. All insulation edges shall be either captured or sealed. The unit's base pan shall have no penetrations within the perimeter of the curb other than the raised 1 1/8 inch high downflow supply/return openings to provide an added water integrity precaution, if the condensate drain backs up. The base of the unit shall have provisions for forklift and crane lifting, with forklift capabilities on three sides of the unit.

Compressors

All units shall have direct-drive, hermetic, scroll type compressors with centrifugal type oil pumps. Motor shall be suction gas-cooled and shall have a voltage utilization range of plus or minus 10 percent of unit nameplate voltage. Internal overloads shall be provided with the scroll compressors.

Crankcase heaters shall be included on all heat pump units.

Dual compressors are outstanding for humidity control, light load cooling conditions and system back-up applications.

Controls

Unit shall be completely factory-wired with necessary controls and contactor pressure lugs or terminal block for power wiring. Unit shall provide an external location for mounting a fused disconnect device.

Microprocessor controls shall be available.

Microprocessor controls provide for all 24V control functions. The resident control algorithms shall make all heating, cooling, and/or ventilating decisions in response to electronic signals from sensors measuring indoor and outdoor temperatures. The control algorithm maintains accurate temperature control, minimizes drift from set point, and provides better building comfort. A centralized microprocessor shall provide anti-short cycle timing and time delay between compressors to provide a higher level of machine protection.

Units shall have single point power entry as standard.

Evaporator and Condenser Coils

Internally finned, 5/16" copper tubes mechanically bonded to a configured aluminum plate fin shall be standard. Coils shall be leak tested at the factory to ensure the pressure integrity. The evaporator coil and condenser coil shall be leak tested to 600 psig. The assembled unit shall be leak tested to 465 psig. The condenser coil shall have a patent pending 1+1+1 hybrid coil designed with slight gaps for ease of cleaning. A plastic, dual-sloped, removable and reversible condensate drain pan with through-the-base condensate drain is standard.

Mechanical Specifications

Filters

Throwaway filters shall be standard on all units. Optional 2-inch MERV 8 and MERV 13 filters shall also be available.

High Pressure Control

All units include High Pressure Cutout as standard.

Indoor Fan

3-5 ton units are belt driven, FC centrifugal fans with adjustable motor sheaves. All 6-7½ ton units (standard efficiency) shall have belt drive motors with an adjustable idler-arm assembly for quick-adjustment to fan belts and motor sheaves. All 10 tons have variable speed direct drive motors. All motors shall be thermally protected. All indoor fan motors meet the U.S. Energy Policy Act of 1992 (EPACT).

Outdoor Fans

The outdoor fan shall be direct-drive, statically balanced, draw-through in the vertical discharge position. The fan motor shall be permanently lubricated and shall have built-in thermal overload protection.

Phase Monitoring Protection

Precedent™ units with 3-phase power are equipped with phase monitoring protection as standard. These devices protect motors and compressors against problems caused by phase loss, phase imbalance and phase reversal indication.

Plenum Fan

The following unit shall be equipped with a direct drive plenum fan design (WSC120E). Plenum fan design shall include a backward-curved fan wheel along with an external rotor direct drive variable speed indoor motor. All plenum fan designs will have a variable speed adjustment potentiometer located in the control box.

Refrigerant Circuits

Each refrigerant circuit offer thermal expansion valve as standard. Service pressure ports, and refrigerant line filter driers are factory-installed as standard. An area shall be provided for replacement suction line driers.

Unit Top

The top cover shall be one piece construction or where seams exist, it shall be double-hemmed and gasket-sealed. The ribbed top adds extra strength and prevents water from pooling on unit top.

Factory Installed Options

Black Epoxy Pre-Coated Coils

The black epoxy coils have a thermoset vinyl coating that is bonded to the aluminum fin stock prior to the fin-stamping process. The pre-coated coils are an economical option for protection in mildly corrosive environments.

CO₂ Sensor Wiring

Factory-installed CO₂ sensor wiring saves time and ensures proper unit connections for the field installed CO₂ sensor kits.

Condensate Overflow Switch

This option shall shut the unit down in the event that a clogged condensate drain line prevents proper condensate removal from the unit.



Mechanical Specifications

Fault Detection & Diagnostics (FDD)

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

Hinged Access Doors

Sheet metal hinges are available on the Filter/Evaporator, Supply Fan/Heat, and the Compressor/Control Access Doors.

Human Interface

The Human Interface shall have a 5 inch color touchscreen display that conforms to FCC Part 15 Class B with an Ingress Protection Rating of IP24. The display text shall be readable by a person with 20/20 vision at a distance of 3 feet and 60° angle at lighting levels ranging from 100 lux - 25,000 lux. Also, the display shall operate at temperatures of -40° C to 70° C. Firmware and unit configurations shall be able to be restored via a USB storage device.

Powered or Unpowered Convenience Outlet

This is a GFCI, 120V/15amp, 2 plug, convenience outlet, either powered or unpowered. When the convenience outlet is powered, a service receptacle disconnect will be available. The convenience outlet is powered from the line side of the disconnect or circuit breaker, and therefore will not be affected by the position of the disconnect or circuit breaker. This option can only be ordered when the Through-the-Base Electrical with either the Disconnect Switch or Circuit Breaker option is ordered.

Single Zone VAV¹ – One Zone Variable Air Volume Mode

Single-zone VAV shall vary the indoor fan speed as the zone cooling or heating load changes, while cooling capacity is cycled to maintain the supply air temperature at setpoint. The indoor fan shall operate at maximum speed whenever the heater operating.

Note: *SZVAV requires the use of a zone temperature sensor. If a unit is configured for SZVAV, but is connected to a conventional thermostat, the unit will revert to multiple-speed (two-speed) indoor fan control.*

Multi-Speed Indoor Fan System

The multiple-speed (two-speed) indoor fan control option shall automatically switch operation of the indoor fan between high speed and low speed, based on the number of compressors operating. The indoor fan shall operate at high speed whenever the gas or electric heater is operating.

Stainless Steel Drain Pan

This option provides excellent corrosion and oxidation resistance. The drain pan shall be reversible and constructed of 304 stainless steel.

Supply, Return, and Plenum Air Smoke Detector

With this option, if smoke is detected, all unit operation will be shut down. Reset will be manual at the unit. In order for the supply air smoke detector or return air smoke detector to properly sense smoke in the supply air stream or the return air stream, the air velocity entering the smoke detector unit must be between 500 - 4000 feet per minute. Equipment covered in this manual will develop an airflow velocity that falls within these limits over the entire airflow range specified in the evaporator fan performance table. Supply and/or Return Smoke Detectors may not be used with the Plenum Smoke Detector.

¹ Single-Zone VAV requires the use of a zone temperature sensor. If a unit is configured for SZVAV, but is connected to a conventional thermostat, the unit will revert to multiple-speed (two-speed) indoor fan control.

Thermal Expansion Valve

Thermal Expansion Valve is standard for all models.

Through-the-Base Electrical Access

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

Through-the-Base Electrical with Circuit Breaker

This option is a thermal magnetic, molded case, HACR Circuit Breaker with provisions for through-the-base electrical connections. The circuit breaker will be installed in a water tight enclosure in the unit with access through a swinging door. Wiring will be provided from the switch to the unit high voltage terminal block. The circuit breaker will provide overcurrent protection, be sized per NEC and cULus guidelines, and be agency recognized by cULus.

Through-the-Base Electrical with Disconnect Switch

This 3-pole, molded case, disconnect switch with provisions for through-the-base electrical connections are available. The disconnect switch will be installed in the unit in a water tight enclosure with access through a swinging door. Wiring will be provided from the switch to the unit high voltage terminal block. The switch will be cULus agency recognized.

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

Two-Inch Filters

Two-inch MERV 8 and MERV 13 media filters shall be available on all models. When ordered, units come equipped with a filter removal tool.

Factory or Field Installed Options

Clogged Filter/Fan Failure Switch

A dedicated differential pressure switch is available to achieve active fan failure indication and/or clogged filter indication. These indications will be registered with a zone sensor with status indication lights. This option is available for microprocessor controlled units.

Differential Pressure Switches

These sensors allow individual fan failure and dirty filter indication for microprocessor controlled units. The fan failure switch will disable all unit functions and “flash” the Service LED on the zone sensor. The dirty filter switch will light the Service LED on the zone sensor and will allow continued unit operation.

Discharge Air Temperature Sensing

This option provides true discharge air temperature sensing in heating models. This option is available for microprocessor controlled units.

Economizer (Standard)

This accessory shall be available with or without barometric relief. The assembly includes fully modulating 0-100 percent motor and dampers, minimum position setting, preset linkage, wiring harness with plug, spring return actuator and fixed dry bulb control. The barometric relief shall provide a pressure operated damper that shall be gravity closing and shall prohibit entrance of outside air during the equipment “off” cycle. Optional solid state or differential enthalpy control shall be available for either factory or field installation. The economizer arrives in the shipping position and shall be moved to the operating position by the installing contractor.

Mechanical Specifications

Electric Heaters

Electric heat modules shall be available for installation within basic unit. Electric heater elements shall be constructed of heavy-duty nickel chromium elements internally delta connected for 240 volt, wye connected for 480 and 600 V. Staging shall be achieved through ReliaTel™. Each heater package shall have automatically reset high limit control operating through heating element contactors. All heaters shall be individually fused from the factory, where required, and shall meet all NEC and CEC requirements when properly installed. Power assemblies shall provide single-point connection. Electric heat modules shall be cULus listed.

Frostat™

This option is to be utilized as a safety device. The Frostat™ opens when temperatures on the evaporator coil fall below 10°F. The temperature will need to rise to 50°F before closing. This option should be utilized in low airflow or high outside air applications (cooling only).

LonTalk® Communication Interface

This option shall be provided to allow the unit to communicate as a Tracer™ LCI-R device or directly with generic LonTalk® Network Building Automation System Controls.

Low Leak Economizer

This accessory meets low leak requirements for ASHRAE 90.1, IECC, and CA Title 24 standards (3 cfm/ft²@1" wg exterior air, 4 cfm/ft²@1" wg return air). This option allows 100% outdoor air supply from 0-100% modulating dampers and is standard with barometric relief. It can be paired with powered exhaust for additional building pressure relief. This option can be paired with or without Fault Detection & Diagnostics (FDD) to meet current mandatory CA Title 24 requirements. Available on downflow units only.

BACnet® Communication Interface

This option shall be provided to allow the unit to communicate directly with a generic open protocol BACnet® MS/TP Network Building Automation System Controls.

Reference or Comparative Enthalpy

Reference Enthalpy is used to measure and communicate outdoor humidity. The unit receives and uses this information to provide improved comfort cooling while using the economizer. Comparative Enthalpy measures and communicates humidity for both outdoor and return air conditions, and return air temperature. The unit receives and uses this information to maximize use of economizer cooling, and to provide maximum occupant comfort control. Reference or Comparative Enthalpy option shall be available when a factory or field installed Downflow Economizer is ordered. This option is available on all downflow models.

Tool-less Hail Guards

Tool-less, hail protection quality coil guards are available for condenser coil protection.

Trane® Communication Interface

This option shall be provided to interface ReliaTel™ controlled units with the Trane® Integrated Comfort™ systems.

Field Installed Options

CO₂ Sensing

The CO₂ sensor shall have the ability to monitor space occupancy levels within the building by measuring the parts per million of CO₂ (Carbon Dioxide) in the air. As the CO₂ levels increase, the outside air damper modulates to meet the CO₂ space ventilation requirements.

Mechanical Specifications

Two field installed kits are offered: CO₂ sensor and wiring or CO₂ sensor only. The CO₂ sensor only kit should be ordered with factory installed CO₂ Sensor wiring. Factory installed CO₂ sensor wiring saves set-up time and ensures proper unit connections for the CO₂ sensor.

High Static Drive

The high static drive option shall allow the standard motor to operate with improved external static capabilities.

Low Leak Economizer

This accessory meets low leak requirements for ASHRAE 90.1, IECC, and CA Title 24 standards (3 cfm/ft²@1" wg exterior air, 4 cfm/ft²@1" wg return air). This option allows 100% outdoor air supply from 0-100% modulating dampers and is standard with barometric relief. It can be paired with powered exhaust for additional building pressure relief. Available on downflow units only.

Manual Outside Air Damper

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

Motorized Outside Air Damper

Manually set outdoor air dampers shall provide up to 50 percent outside air. Once set, outdoor air dampers shall open to set position when indoor fan starts. The damper shall close to the full closed position when indoor fan shuts down.

Powered Exhaust

The powered exhaust, available for 6-10 ton units, shall provide exhaust of return air, when using an economizer, to maintain better building pressurization.

Programmable Night Setback

Auto or manual changeover with seven-day programming. Keyboard selection of Heat, Cool, Fan, Auto, or On. All programmable sensors have System On, Heat, Cool, Service LED/indicators as standard. Night Setback Sensors have one (1) Occupied, one (1) Un-occupied, and one (1) Override program per day.

Remote Potentiometer

The minimum position setting of the economizer shall be adjusted with this accessory.

Roof Curb

The roof curb shall be designed to mate with the unit's downflow supply and return and provide support and a water tight installation when installed properly. The roof curb design shall allow field-fabricated rectangular supply/return ductwork to be connected directly to the curb. Curb shall be shipped knocked down for field assembly and shall include wood nailer strips.

Thermostat

Two stage heating and cooling operation or one stage heating and cooling shall be available in either manual or automatic changeover. Automatic programmable electronic with night set back shall also be available.

Ventilation Override Accessory

With the Ventilation Override Accessory installed, the unit can be set to transition up to 3 different pre-programmed sequences for Smoke Purge, Pressurization, and Exhaust. The transition occurs when a binary input on the RTOM is closed (shorted). This would typically be a hard wired relay output from a smoke detector or fire control panel. The ventilation override accessory shall be available as field installed.

Mechanical Specifications

Zone Sensor

This control shall be provided to interface with the Micro equipped units and shall be available in either manual, automatic programmable with night setback, with system malfunction lights, or remote sensor options.



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