



Packaged Heat Pumps

Precedent™

3-10 Tons — 60 Hz



Packaged Heat Pumps (WSC)



Introduction

Packaged Heat Pumps

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.

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, rounded corners and beveled top Precedent continues to provide the highest standards in quality and reliability, comfort, ease of service, and the performance of Trane light commercial products.

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

Precedent features cutting edge technologies: reliable compressors, Trane engineered 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.

It's Hard To Stop A Trane.®



Packaged Heat Pump



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Features and Benefits

Standard Features

- 1" throwaway filters provided on 3-5 ton units
- 2" throwaway filters provided on 6-10 ton units
- 5-year Limited Compressor Warranty
- 1-year Limited Parts Warranty
- Anti-Short Cycle Timer (Standard with ReliaTel™)
- Belt Drive Motors (6-10 tons)
- Colored and Numbered Wiring
- Convertible Airflow
- Direct Drive Motors (3-5 tons)
- Easy Access Low Voltage Terminal Board (LTB)
- ReliaTel Microprocessor Controls
- Foil-Faced and Edge Captured Insulation
- IAQ Dual Sloped and Removable Drain Pans
- Liquid Line Refrigerant Drier
- Low Ambient Cooling to 0°F
- Operating Charge of R-22
- Patented Hybrid Condenser Coil for easy cleaning
- Provisions for Condensate Drain Connections
- Quick Access Panels
- Quick Adjust Fan Motor Mounting Plate
- Single Point Power
- Single Side Service
- Standardized Components
- Trane built Scroll Compressors on all 3-10 ton units except 3 ton Standard Efficiency Model (Reciprocating Compressor)

Options*

Factory Installed Options

- Belt Drive Motors (3-5 tons)
- Black Epoxy Pre-Coated Coils
- High Pressure Cutout
- Hinged Access Doors
- Phase Monitor
- Powered or Unpowered Convenience Outlet
- Supply and/or Return Air Smoke Detector
- Through the Base Electrical Access
- Through the Base Electrical with Circuit Breaker
- Through the Base Electrical with Disconnect Switch
- 2" Pleated Filters

Factory or Field Installed Options

- Barometric Relief
- Clogged Filter/Fan Failure Switch
- Crankcase Heaters
- Discharge Air Sensing Kit
- Economizer
- Electric Heaters
- Froststat
- LonTalk® Communications Interface (LCI)
- Oversized Motors
- Reference or Comparative Enthalpy
- Tool-less Hail Guards
- Trane Communications Interface (TCI)

Field Installed Options

- CO₂ Sensing
- Digital Display Zone Sensor
- Dual Thermistor Remote Zone Sensor
- High Altitude Kit
- High Static Drive
- Manual Outside Air Damper
- Motorized Outside Air Dampers
- Powered Exhaust
- Quick Adapt Curbs
- Quick Start Kit
- Remote Potentiometer
- Roof Curb
- Thermostat
- Zone Sensor

**Refer to Model Number Description for option availability.*

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



Features and Benefits

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.

Compressors

Precedent contains the best compressor technology available to achieve the highest possible performance. Our compressor line includes Trane built ClimaTuff® reciprocating and scrolls.



Condenser Coil

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



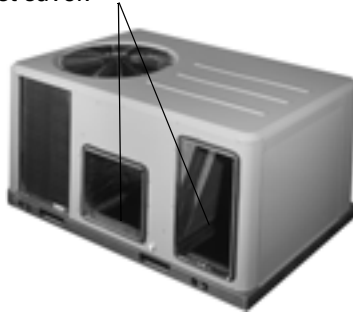
Controls – ReliaTel

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.

Dual Sloped Drain Pans

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



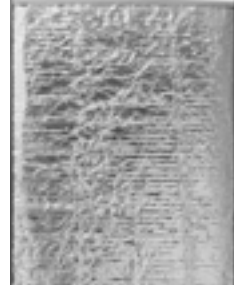
Easy Access Low Voltage Terminal Board

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.

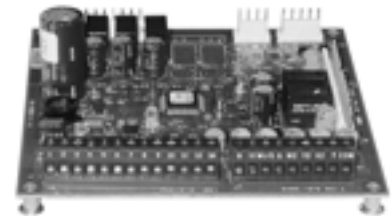


Low Ambient Cooling

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.



Motors

Belt or direct drive – standard or oversized supply fan motors meet a wide airflow range.

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.



Features and Benefits

Single Side Service

Single side service is standard on all units.

Standardized Components

Components are placed in the same location on all Precedent units. Familiarize yourself with one Precedent and you are familiar with every Precedent.

Due to standardized components throughout the Precedent line, contractors/owners can stock fewer parts.

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 Options

Belt Drive Motors (3-5 tons)



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.

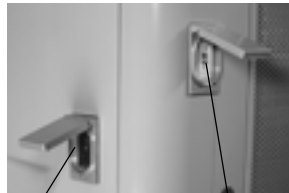
Disconnect Switch (Required with Through-the-Base Electrical)

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.

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.



Convenience Outlet
Unit Mounted Disconnect or Circuit Breaker

High Pressure Cutout

This factory-installed option is offered for units that do not have High Pressure Cutout as standard. All 3-phase units with scroll compressors include High Pressure cutout as standard.

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.



Phase Monitor

Phase monitor shall provide 100% protection for motors and compressors against problems caused by phase loss, phase imbalance, and phase reversal. Phase monitor is equipped with an LED that provides an ON or FAULT indicator.

****Refer to Model Number Description for option availability.***

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.



Supply and/or Return Air Smoke Detector



With this option installed, if smoke is detected, all unit operation will be shut down. Reset will be manual at the unit. Return Air Smoke Detectors require minimum allowable airflow when used with certain models.

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.



Features and Benefits

Two-Inch Pleated Filters

2" pleated media filters are offered as an option on all Precedent units for jobs with enhanced Indoor Air Quality (IAQ) requirements.

Factory or Field Installed Options

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 or Integrated Comfort System 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.

Crankcase Heaters

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

Discharge Air Sensing Kit

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

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.

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

Froststat

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.

LonTalk® Communications Interface

The LonTalk communications interface allows the unit to communicate as a Tracer™ LCI-V device or directly with generic LonTalk Network Building Automation System Controls.

Oversized Motors

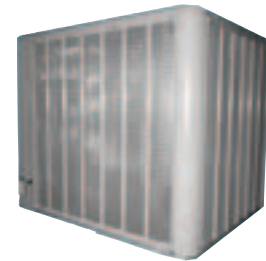
Factory or field installed oversized motors available for high static applications.

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.



Trane Communication Interface (TCI)

Available factory or field installed. This module when applied with the ReliaTel™ easily interfaces with Trane's Integrated Comfort™ System.

Field Installed Options

CO₂ Sensing

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. The CO₂ sensor kit is available as a field installed accessory.

Digital Display Zone Sensor

The Digital LCD (Liquid Crystal Display) zone sensor has the look and functionality of standard zone sensors. This sensor should be utilized with ReliaTel™ controls.

Dual Thermistor Remote Zone Sensor

This sensor will reduce the total number of remote sensors to obtain space temperature averaging. This sensor should be utilized with ReliaTel controls.

High Altitude Kit

Previously a Canadian Agency requirement for units applied about 2000 feet, it is not required by the U.S. Domestic contractors should consult with local authority on best practice. Devates gas orifices by 10%.

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.

Powered Exhaust Option

This option is available on downflow units and provides exhaust of the return air, when using a downflow economizer, to maintain proper building pressurization. Great for relieving most building overpressurization problems.

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 two roof curbs for the entire Precedent 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.

Zone Sensors/Thermostats

Available in programmable, automatic and manual styles.

Other Benefits

Airflow Distribution

Airflow is outstanding. The 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 Trane Precedent was designed with direct input from service contractors. This valuable information helped to design a product that would get the serviceman off the job quicker and save the owner money. Precedent does this by offering 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

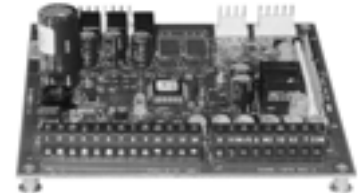
Precedent offers ultimate flexibility. Units are built to order in our standard "shortest in the industry" ship cycle time.

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.

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 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 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.



ReliaTel™

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.

Features and Benefits

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.

ReliaTel features expanded diagnostic capabilities when utilized with Trane Integrated Comfort™ Systems.

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.

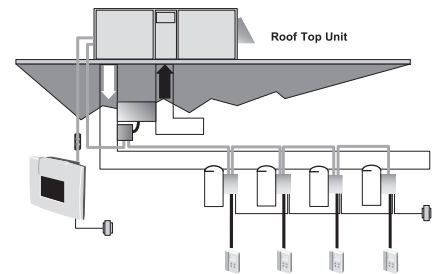
Intelligent Fallback is a benefit to the building occupant. If a component goes astray, the unit will continue to operate at predetermined temperature setpoint.

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 than conventional electro-mechanical thermostats.

The same ReliaTel Board fits all Precedent Packaged Gas/Electrics, Cooling with Electric Heat, and Heat Pump models. This provides standardization of parts for contractors. Less money is tied up in inventory with ReliaTel.

VariTrac – Building Automation System

When Trane's changeover VAV System for light commercial applications is coupled with Precedent, it provides the latest in technological advances for comfort management systems and can allow thermostat control in every zone served by VariTrac.



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 200 psig and pressure tested to 450 psig.

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

Every unit receives a 100% unit run test before leaving the production line to 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 system related.*

Note: *Pressure drop of the return air system should be considered to control building pressurization.*

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.

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 options need to be included/considered when low ambient applications are required: continuous fan operation, crankcase heaters, thermal expansion valves (not offered on heat pump evaporator coil), froststat.

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

Unit Pitch

These units have reversible sloped condensate drain pans. Units 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: 59 MBh
Sensible Cooling Load: 40 MBh
Airflow: 2000 cfm
Electrical Characteristics: 460/60/3
Summer Design Conditions:
Entering
Evaporator Coil: 80 DB, 67 WB
Outdoor Ambient: 95
External Static Pressure: 0.36 in. wg
Downflow Configuration
High Efficiency
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.

$59 \text{ MBh} / 12 \text{ MBh} = \text{approx. } 5 \text{ tons}$

Step 3.

Table 6 shows that a WSC060A4 has a **gross** cooling capacity of 63.1 MBh and 47.5 MBh sensible capacity at 2000 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	0.36 wg
Standard Filter 1 in. from Table 27	0.09 wg
Economizer from Table 27 (100% Outside Air)	0.18 wg
Electric Heater Size 6 kW from Table 27 (reference "Heating Capacity" section on this page for determination of heater size)	0.056 wg
Total Static Pressure	0.69 wg

Note: *The Evaporator Fan Performance Table 15 has deducted the pressure drop for a 1 in. filter already in the unit (see note below Table 15). Therefore, the actual total static pressure is 0.69-0.09 (from Table 27) = 0.60 wg.*

With 2000 cfm and 0.60 wg. Table 15 shows .90 bhp for this unit. Note below the table gives a formula to calculate Fan Motor Heat, $2.829 \times \text{bhp} + .4024 = \text{MBh}$. $2.829 \times .90 + .4024 = 2.95 \text{ MBh}$.

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

Net Total Cooling Capacity = $63.1 \text{ MBh} - 2.95 = 60.15 \text{ MBh}$.

Net Sensible Cooling Capacity = $47.5 \text{ MBh} - 2.95 = 44.55 \text{ MBh}$.

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 35 to match the heating loads at design conditions.

Total heating load of 50 MBh

Outdoor Ambient (Winter): 17 DB

Indoor Return Temperature: 70 DB

Airflow: 2000 cfm

Use the integrated portion of Table 35 for the WSC060A4 to determine capacity at winter design conditions. The mechanical heating portion of the heat pump will provide 32.7 MBh.

Step 2.

Because 32.7 is less than the building's required heating capacity at winter design conditions, a supplementary heater must be selected.

$50 \text{ MBh} - 32.7 \text{ MBh} = 17.3 \text{ MBh}$

The auxiliary electric heat capacities are listed in Table 28. From the table, a 6 kW heater will deliver 20.48 MBh at 480 volts. In order to determine capacity at 460 volts, the heater voltage correction factor from Table 29 must be used. Therefore, $20.48 \text{ MBh} \times .918$ (voltage correction factor) = 18.80 MBh. A 6 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 15 for a WSC060A4 at 2000 cfm and 0.60 static pressure. The belt drive motor will give the desired airflow at a rated bhp of 0.90 and 998 rpm.



Model Number Description

W	S	C	036	A	3	R	B	A	**	C	0	0	0	A	1	0	0	0	1	A	1
1	2	3	456	7	8	9	10	11	12,13	14	15	16	17	18	19	20	21	22	23	24	25
DIGIT 1 – UNIT TYPE			DIGIT 14 – FRESH AIR SELECTION										DIGIT 19 - DISCONNECT/CIRCUIT BREAKER/PHASE MONITOR (3-PHASE ONLY)								
W Packaged Heat Pump			0 No Fresh Air										0 No Disconnect/No Circuit Breaker No Phase Monitor								
DIGIT 2 – EFFICIENCY			A Manual Outside Air Damper 0-50% ⁷										1 Unit Mounted Non-Fused Disconnect ⁸								
S Standard Efficiency			B Motorized Outside Air Damper 0-50%										2 Unit Mounted Circuit Breaker ⁸								
DIGIT 3 – AIRFLOW			C Economizer, Dry Bulb 0-100% without Barometric Relief ¹										3 Phase Monitor								
C Convertible			D Economizer, Dry Bulb 0-100% with Barometric Relief ¹										4 Phase Monitor & Non-Fused Disconnect Switch								
DIGIT 4,5,6 – NOMINAL GROSS COOLING CAPACITY (MBh)			E Economizer, Reference Enthalpy 0-100% without Barometric Relief ¹										5 Phase Monitor & Circuit Breaker								
036	3 Ton	F Economizer, Reference Enthalpy 0-100% with Barometric Relief ¹										DIGIT 20 - CONVENIENCE OUTLET									
048	4 Ton	G Economizer, Comparative Enthalpy 0-100% without Barometric Relief ¹										0 No Convenience Outlet									
060	5 Ton	H Economizer, Comparative Enthalpy 0-100% with Barometric Relief ¹										A Unpowered Convenience Outlet									
072	6 Ton	DIGIT 15 - SUPPLY FAN/DRIVE TYPE/MOTOR										B Powered Convenience Outlet (3 phase only) ²									
090	7½ Ton	0 Standard Drive ¹⁰										DIGIT 21 - COMMUNICATIONS OPTIONS									
120	10 Ton	1 Oversized Motor										0 No Communications Interface									
DIGIT 7 – MAJOR DESIGN SEQUENCE			2 Optional Belt Drive Motor										1 Trane Communications Interface								
A First			DIGIT 16 - HINGED SERVICE ACCESS/FILTERS										2 LonTalk® Communications Interface								
DIGIT 8 – VOLTAGE SELECTION			0 Standard Panels/Standard Filters										DIGIT 22 - REFRIGERATION SYSTEM OPTION								
3	208-230/60/3	A Hinged Access Panels/Standard Filters										0 Standard Refrigeration System ³									
4	460/60/3	B Standard Panels/2" Pleated Filters										DIGIT 23 - REFRIGERATION CONTROLS									
W	575/60/3	C Hinged Access Panels/2" Pleated Filters										0 No Refrigeration Control									
K	380/60/3	DIGIT 17 - CONDENSER COIL PROTECTION										1 High Pressure Control ⁴									
DIGIT 9 – UNIT CONTROLS			0 Standard Coil										2 Frostat								
R ReliaTel™ Microprocessor			1 Standard Coil with Hail Guard										3 Crankcase Heater ⁹								
DIGIT 10 – HEATING CAPACITY			2 Black Epoxy Pre-Coated Condenser Coil										4 High Pressure Control ⁴ and Frostat								
0	No Electric Heater	3 Black Epoxy Pre-Coated Condenser Coil with Hail Guard										5 High Pressure Control ⁴ and Crankcase Heater ⁹									
B	6 kW (3 phase)	DIGIT 18 - THROUGH THE BASE PROVISIONS										6 Frostat and Crankcase Heater ^{4,9}									
E	12 kW (3 phase)	0 No Through the Base Provisions										7 High Pressure Control ⁴ , Frostat and Crankcase Heater ⁹									
G	18 kW (3 phase)	A Through the Base Electric ⁸										DIGIT 24 - SMOKE DETECTOR^{4,5}									
J	23 kW (3 phase)	0 No Smoke Detector										A Return Air Smoke Detector ⁶									
K	27 kW (3 phase)	DIGIT 11 – MINOR DESIGN SEQUENCE										B Supply Air Smoke Detector									
N	36 kW (3 phase)	A First Sequence										C Supply and Return Air Smoke Detectors									
P	54 kW (3 phase)	DIGIT 12,13 – SERVICE SEQUENCE																			
** Factory Assigned																					



Model Number Description

DIGIT 25 - MONITORING CONTROLS

- | | | | |
|---|---|-----|---|
| 0 | No Monitoring Control | 5. | Not available with High Temperature Stat accessory. |
| 1 | Clogged Filter Switch | 6. | 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. |
| 2 | Fan Failure Switch | 7. | The manual outside air damper will ship factory supplied within the unit, but must be field installed. |
| 3 | Discharge Air Sensing Tube | 8. | Through the base electric required when ordering disconnect/circuit breaker options. |
| 4 | Clogged Filter Switch and Fan Fail Switch | 9. | Crankcase heaters are standard on 3 ton standard efficiency and 7.5 ton single compressor units. |
| 5 | Clogged Filter Switch and Discharge Air Sensing Tube | 10. | Direct Drive (3-5 tons); Belt Drive (6-10 tons) |
| 6 | Fan Fail Switch and Discharge Air Sensing Tube | | |
| 7 | Clogged Filter and Fan Fail Switches and Discharge Air Sensing Tube | | |

Model Number Notes

1. 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.
2. Requires use of Disconnect or Circuit Breaker.
3. Standard refrigeration metering device – short orifice.
4. High Pressure control is standard on 3-phase units with scroll compressors and in 3 ton standard efficiency units.



General Data

Table 1. General Data — 3-4 Tons

	3 Tons	4 Tons
	WSC036A3,4,W	WSC048A3,4,W
Cooling Performance⁽ⁱ⁾		
Gross Cooling Capacity	38,100	50,800
SEER ⁽ⁱⁱ⁾	10.20	10.70
Nominal CFM / ARI Rated CFM	1,200/1,200	1,600/1,600
ARI Net Cooling Capacity	36,000	48,500
Integrated Part Load Value	—	—
System Power (kW)	3.96	5.05
Heating Performance⁽ⁱⁱⁱ⁾		
High Temp. Btuh Rating	35,000	47,000
System Power kW	3.35	4.53
Low Temp Btuh Rating	18,600	28,800
System Power kW	2.65	4.02
HSPF (Btu/Watts-hr)	6.95	6.90
Compressor		
Number/Type	1/Reciprocal	1/Scroll
Sound		
Outdoor Sound Rating (dB) ^(iv)	82	85
Outdoor Coil		
Type	Lanced	Lanced
Tube Size (in.)	0.3125	0.3125
Face Area (sq. ft.)	9.59	9.59
Rows/FPI	2/17	3/17
Refrigerant Control	Expansion Valve	Expansion Valve
Indoor Coil		
Type	Lanced	Lanced
Tube Size (in.)	0.3125	0.3125
Face Area (sq. ft.)	6.17	6.68
Rows/FPI	3/16	3/16
Refrigerant Control	Short Orifice	Short Orifice
Drain Connection Number/Size (in.)	1¾ NPT	1¾ NPT
Outdoor Fan		
Type	Propeller	Propeller
Number Used/Diameter (in.)	1/22	1/22
Drive Type/No. Speeds	Direct/1	Direct/1
CFM	2,950	3,200
Number Motors/HP	1/0.25	1/0.40
Motor RPM	1,075	1,075
Direct Drive Indoor Fan		
Type	FC Centrifugal	FC Centrifugal
Number Used/Diameter (in.)	1/10x10	1/11x11
Drive Type/Number Speeds	Direct/2	Direct/2
Number Motors	1	1
Motor HP (Standard/Oversized)	0.33/0.50	0.60/0.80
Motor RPM (Low/High Speed)	950/1,060	930/1,000
Oversized Motor RPM (Low/High Speed)	1,100/1,145	1,000/1,100
Motor Frame Size (Standard/Oversized)	48/48	48/48
Belt Drive Indoor Fan		
Type	FC Centrifugal	FC Centrifugal
Number Used/Diameter (in.)	1/11x11	1/11x11
Drive Type/Number Speeds	Belt/Variable Sheave	Belt/Variable Sheave
Number Motors	1	1
Motor HP (Standard/Oversized)	1.00/—	1.00/—
Motor RPM (Standard/Oversized)	1,750/—	1,750/—
Motor Frame Size (Standard/Oversized)	56/—	56/—
Filters^(v)		
Type Furnished	Throwaway	Throwaway
Number Size Recommended	(2) 20x25x1	(2) 20x25x1



General Data

(3, 4 Tons)

Table 1. (continued) General Data — 3-4 Tons

	3 Tons	4 Tons
Refrigerant Charge (vi)		
Pounds of R-22	6.8	10.2

- (i) Cooling Performance and Heating 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. ARI capacity is net and includes the effect of fan motor heat. Units are suitable for operation to $\pm 20\%$ of nominal cfm. Certified in accordance with the Air-Source Unitary Heat Pump Equipment certification program, which is based on ARI Standard 210/240.
- (ii) SEER is rated at ARI conditions and in accordance with DOE test procedures.
- (iii) Cooling Performance and Heating 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. ARI capacity is net and includes the effect of fan motor heat. Units are suitable for operation to $\pm 20\%$ of nominal cfm. Certified in accordance with the Air-Source Unitary Heat Pump Equipment certification program, which is based on ARI Standard 210/240.
- (iv) Outdoor Sound Rating shown is tested in accordance with ARI Standard 270. For additional information refer to [Table 26](#).
- (v) Optional 2" pleated filters also available.
- (vi) Refrigerant charge is an approximate value. For a more precise value, see unit nameplate and service instructions.



General Data

(5, 6 Tons)

Table 2. General Data — 5-6Tons

	5 Tons	6 Tons
	WSC060A3,4,W	WSC072A3,4,W
Cooling Performance⁽ⁱ⁾		
Gross Cooling Capacity	63,100	74,000
SEER/EER ⁽ⁱⁱ⁾	10.10/—	—/10.6
Nominal CFM / ARI Rated CFM	2,000/2,000	2,400/2,100
ARI Net Cooling Capacity	60,000	70,000
Integrated Part Load Value	—	—
System Power (kW)	6.74	6.60
Heating Performance⁽ⁱⁱⁱ⁾		
High Temp. Btuh Rating	59,000	68,000
System Power kW/COP	5.76/—	6.04/3.3
Low Temp Btuh Rating	36,200	38,000
System Power kW/COP	5.05/—	5.06/2.2
HSPF (Btu/Watts-hr)	7.00	—
Compressor		
Number/Type	1/Scroll	1/Scroll
Sound		
Outdoor Sound Rating (dB) ^(iv)	85	90
Outdoor Coil		
Type	Lanced	Lanced
Tube Size (in.)	0.3125	0.3125
Face Area (sq. ft.)	9.59	17.00
Rows/FPI	3/17	2/17
Refrigerant Control	Expansion Valve	Expansion Valve
Indoor Coil		
Type	Lanced	Lanced
Tube Size (in.)	0.3125	0.3125
Face Area (sq. ft.)	6.68	9.89
Rows/FPI	3/16	3/16
Refrigerant Control	Short Orifice	Short Orifice
Drain Connection Number/Size (in.)	1¾ NPT	1¾ NPT
Outdoor Fan		
Type	Propeller	Propeller
Number Used/Diameter (in.)	1/22	1/26
Drive Type/No. Speeds	Direct/1	Direct/1
CFM	3,200	6,200
Number Motors/HP	1/0.40	1/0.70
Motor RPM	1,075	1,075
Direct Drive Indoor Fan		
Type	FC Centrifugal	—
Number Used/Diameter (in.)	1/11x11 ^(v)	—
Drive Type/Number Speeds	Direct/2	—
Number Motors	1	—
Motor HP (Standard/Oversized)	0.90/1.00	—
Motor RPM (Low/High Speed)	985/1,080	—
Oversized Motor RPM (Low/High Speed)	1,080/1,135	—
Motor Frame Size (Standard/Oversized)	48/48	—
Belt Drive Indoor Fan		
Type	FC Centrifugal	FC Centrifugal
Number Used/Diameter (in.)	1/11x11	1/12x12
Drive Type/Number Speeds	Belt/Variable Sheave	Belt/Variable Sheave
Number Motors	1	1
Motor HP (Standard/Oversized)	1.00/—	1.00/2.00
Motor RPM (Standard/Oversized)	1,750/—	1,750/1,750
Motor Frame Size (Standard/Oversized)	56/—	56/56
Filters^(vi)		
Type Furnished	Throwaway	Throwaway
Number Size Recommended	(2) 20x25x1	(4) 16x25x2



General Data

(5, 6 Tons)

Table 2. (continued) General Data — 5-6Tons

	5 Tons	6 Tons
Refrigerant Charge (Lbs. of R-22)^(vii)		
Pounds of R-22	8.5	8.2

- (i) Cooling Performance and Heating 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. ARI capacity is net and includes the effect of fan motor heat. Units are suitable for operation to $\pm 20\%$ of nominal cfm. Certified in accordance with the Air-Source Unitary Heat Pump Equipment certification program, which is based on ARI Standard 210/240.
- (ii) EER and/or SEER are rated at ARI conditions and in accordance with DOE test procedures.
- (iii) Cooling Performance and Heating 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. ARI capacity is net and includes the effect of fan motor heat. Units are suitable for operation to $\pm 20\%$ of nominal cfm. Certified in accordance with the Air-Source Unitary Heat Pump Equipment certification program, which is based on ARI Standard 210/240.
- (iv) Outdoor Sound Rating shown is tested in accordance with ARI Standard 270. For additional information refer to [Table 26](#).
- (v) Fan Diameter with oversized motor is 12x11.
- (vi) Optional 2" pleated filters also available.
- (vii) Refrigerant charge is an approximate value. For a more precise value, see unit nameplate and service instructions.



General Data

(7½, 10 Tons)

Table 3. General Data — 7½, 10Tons

	7½ Tons	10 Tons
	WSC090A3,4W	WSC120A3,4,W
Cooling Performance⁽ⁱ⁾		
Gross Cooling Capacity	93,000	121,000
EER ⁽ⁱⁱ⁾	10.1	10.1
Nominal CFM / ARI Rated CFM	3,000/2,625	4,000/3,200
ARI Net Cooling Capacity	88,000	113,000
Integrated Part Load Value	—	10.7
System Power (kW)	8.71	11.19
Heating Performance⁽ⁱⁱⁱ⁾		
High Temp. Btuh Rating	88,000	108,000
System Power kW/COP	8.06/3.2	9.59/3.3
Low Temp Btuh Rating	50,000	59,000
System Power kW/COP	6.66/2.2	7.86/2.2
HSPF (Btu/Watts-hr)	—	—
Compressor		
Number/Type	1/Scroll	2/Scrolls
Sound		
Outdoor Sound Rating (dB) ^(iv)	90	88
Outdoor Coil		
Type	Lanced	Lanced
Tube Size (in.)	0.3125	0.3125
Face Area (sq. ft.)	17.00	19.83
Rows/FPI	3/17	3/17
Refrigerant Control	Expansion Valve	Expansion Valve
Indoor Coil		
Type	Lanced	Lanced
Tube Size (in.)	0.3125	0.3125
Face Area (sq. ft.)	9.89	12.36
Rows/FPI	4/16	4/16
Refrigerant Control	Short Orifice	Short Orifice
Drain Connection Number/Size (in.)	1¾ NPT	1¾ NPT
Outdoor Fan		
Type	Propeller	Propeller
Number Used/Diameter (in.)	1/26	1/26
Drive Type/No. Speeds	Direct/1	Direct/1
CFM	6,400	6,700
Number Motors/HP	1/0.70	1/0.75
Motor RPM	1,075	1,075
Belt Drive Indoor Fan		
Type	FC Centrifugal	FC Centrifugal
Number Used/Diameter (in.)	1/12x12	1/15x15
Drive Type/Number Speeds	Belt/Variable Sheave	Belt/Variable Sheave
Number Motors	1	1
Motor HP (Standard/Oversized)	1.00/3.00	2.00/5.00
Motor RPM (Standard/Oversized)	1,750/1,750	1,750/3,450
Motor Frame Size (Standard/Oversized)	56/56	56/56
Filters^(v)		
Type Furnished	Throwaway	Throwaway
Number Size Recommended	(4) 16x25x2	(4)20x25x2



General Data

(7½, 10 Tons)

Table 3. (continued) General Data – 7½, 10Tons

	7½ Tons	10 Tons
Refrigerant Charge (Lbs. of R-22)^(vi)		
Pounds of R-22	12.2	7.9 Circuit 1/7.9 Circuit 2

- (i) Cooling Performance and Heating 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. ARI capacity is net and includes the effect of fan motor heat. Units are suitable for operation to ±20% of nominal cfm. Certified in accordance with the Air-Source Unitary Heat Pump Equipment certification program, which is based on ARI Standard 210/240.
- (ii) SEER is rated at ARI conditions and in accordance with DOE test procedures.
- (iii) Cooling Performance and Heating 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. ARI capacity is net and includes the effect of fan motor heat. Units are suitable for operation to ±20% of nominal cfm. Certified in accordance with the Air-Source Unitary Heat Pump Equipment certification program, which is based on ARI Standard 210/240.
- (iv) Outdoor Sound Rating shown is tested in accordance with ARI Standard 270. For additional information refer to [Table 26](#).
- (v) Optional 2" pleated filters also available.
- (vi) 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 Three Phase Standard Efficiency WSC036A3,4,W

		Ambient Temperature																							
		85			95			105			115														
Air Flow CFM	Ent DB (F)	Entering Wet Bulb																							
		61	67	73	61	67	73	61	67	73	61	67	73												
		MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC										
1080	75	34.7	28.9	39.7	22.6	42.4	15.3	31.6	27.3	37.1	21.4	41.0	14.4	28.5	25.6	33.8	19.8	39.0	13.3	25.3	24.0	30.2	18.2	36.1	12.0
	80	35.4	34.8	39.8	28.1	42.9	21.0	32.5	32.5	37.2	26.8	41.3	20.0	29.9	29.9	33.9	25.2	39.1	18.9	27.4	27.4	30.4	23.6	36.2	17.6
	85	37.7	37.7	40.1	33.5	43.4	26.1	35.3	35.3	37.6	32.4	41.5	25.3	32.7	32.7	34.4	30.8	39.3	24.4	30.1	30.1	31.0	29.2	36.3	23.1
	90	40.0	40.0	40.7	38.9	43.9	31.0	38.0	38.0	38.3	38.1	41.9	30.4	35.6	35.6	35.6	35.6	39.5	29.8	32.9	32.9	32.9	32.9	36.6	28.6
1200	75	35.7	30.8	40.3	23.5	42.7	15.5	32.5	29.2	37.9	22.3	41.4	14.6	29.3	27.5	34.6	20.8	39.4	13.6	26.2	25.9	30.9	19.1	36.8	12.4
	80	36.6	36.6	40.5	29.5	43.3	21.9	34.1	34.1	38.1	28.5	41.7	20.9	31.4	31.4	34.8	26.9	39.7	19.8	28.7	28.7	31.2	25.3	36.9	18.5
	85	39.3	39.3	40.9	35.4	43.9	26.9	37.0	37.0	38.5	34.6	42.0	26.3	34.4	34.4	35.4	33.2	39.8	25.7	31.7	31.7	32.0	31.6	37.0	24.6
	90	41.4	41.4	41.6	41.2	44.4	32.2	39.6	39.6	39.6	39.6	42.5	31.8	37.3	37.3	37.3	37.3	40.2	31.6	34.6	34.6	34.6	34.6	37.3	30.6
1320	75	36.6	32.7	40.7	24.5	43.0	15.8	33.4	31.0	38.5	23.3	41.7	14.9	30.2	29.4	35.3	21.8	39.8	13.8	26.9	26.9	31.5	20.1	37.2	12.7
	80	38.1	38.1	41.0	30.7	43.6	22.6	35.5	35.5	38.7	30.0	42.1	21.6	32.8	32.8	35.6	28.6	40.1	20.6	30.0	30.0	31.9	26.9	37.4	19.4
	85	40.4	40.4	41.5	37.0	44.2	29.4	38.4	38.4	39.3	36.7	42.6	27.5	35.9	35.9	36.4	35.5	40.3	26.9	33.0	33.0	33.0	33.0	37.6	26.0
	90	42.4	42.4	42.4	42.4	44.8	33.2	40.8	40.8	40.8	40.8	42.9	33.1	38.7	38.7	38.7	38.7	40.8	33.2	36.1	36.1	36.1	36.1	38.0	32.6
1440	75	37.3	34.5	41.0	25.1	43.3	16.0	34.2	32.9	38.9	24.3	41.9	15.1	30.8	30.8	35.8	22.8	40.1	14.1	27.9	27.9	32.0	21.2	37.6	13.0
	80	39.2	39.2	41.4	31.9	43.9	23.4	36.8	36.8	39.2	31.5	42.4	22.1	34.0	34.0	36.2	30.2	40.4	21.4	31.1	31.1	32.6	28.6	37.8	20.2
	85	41.3	41.3	42.0	38.5	44.5	28.2	39.5	39.5	40.0	38.6	42.9	28.2	37.1	37.1	37.1	37.1	40.7	28.0	34.3	34.3	34.3	34.3	38.0	27.3
	90	43.1	43.1	43.1	43.1	45.1	34.1	41.7	41.7	41.7	41.7	43.3	34.3	39.7	39.7	39.7	39.7	41.3	34.7	37.3	37.3	37.3	37.3	38.6	34.4

Notes:

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

Table 5. Gross Cooling Capacities 4 Tons Three Phase Standard Efficiency WSC048A3,4,W

		Ambient Temperature																							
		85			95			105			115														
Air Flow CFM	Ent DB (F)	Entering Wet Bulb																							
		61	67	73	61	67	73	61	67	73	61	67	73												
		MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC										
1440	75	45.9	38.6	52.2	29.8	55.3	20.0	42.3	36.5	49.6	28.8	54.2	19.0	38.5	34.5	45.8	26.5	52.4	17.8	34.7	32.5	41.5	25.0	49.5	16.4
	80	47.0	46.5	52.4	37.2	55.9	27.7	43.6	43.6	49.8	35.9	54.7	26.7	40.5	40.5	45.9	34.0	52.6	25.3	37.3	37.3	41.8	32.0	49.6	23.9
	85	50.1	50.1	52.8	44.4	56.6	34.0	47.4	47.4	50.2	43.4	55.0	33.4	44.3	44.3	46.6	41.6	52.9	32.8	41.1	41.1	42.5	39.6	49.8	31.3
	90	52.9	52.9	53.6	51.5	57.2	40.3	50.9	50.9	51.3	51.1	55.5	40.2	48.1	48.1	48.1	48.1	53.2	39.8	45.0	45.0	45.0	45.0	50.0	38.7
1600	75	47.2	41.1	52.9	31.1	55.7	20.3	43.5	39.1	50.6	29.8	54.7	19.3	39.7	37.0	46.9	28.0	52.9	18.2	35.8	35.0	42.6	25.9	50.3	16.9
	80	48.7	48.7	53.2	38.9	56.4	28.2	45.7	45.7	50.8	38.0	55.2	27.7	42.5	42.5	47.1	36.2	53.3	26.5	39.2	39.2	42.9	34.2	50.4	25.1
	85	51.9	51.9	53.7	46.6	57.1	34.9	49.6	49.6	51.4	46.3	55.6	34.6	46.5	46.5	47.9	44.7	53.5	34.3	43.2	43.2	44.0	42.7	50.6	33.2
	90	54.4	54.4	54.7	54.1	57.8	41.6	52.7	52.7	52.7	52.7	56.1	41.9	50.3	50.3	50.3	50.3	54.0	42.0	47.3	47.3	47.3	47.3	51.0	41.2
1760	75	48.3	43.5	53.3	32.0	56.0	20.6	44.6	41.5	51.3	31.1	55.0	19.6	40.8	39.5	47.7	29.4	53.4	18.5	36.8	36.8	43.4	27.3	50.9	17.2
	80	50.4	50.4	53.8	40.4	56.7	28.6	47.6	47.6	51.5	40.0	55.7	28.4	44.3	44.3	48.1	38.4	53.8	27.5	40.9	40.9	43.9	36.4	51.1	26.2
	85	53.3	53.3	54.5	48.6	57.5	35.6	51.3	51.3	52.3	48.8	56.3	36.1	48.4	48.4	49.2	47.7	54.1	35.7	45.1	45.1	45.1	45.1	51.3	35.0
	90	55.5	55.5	55.5	55.5	58.2	42.8	54.1	54.1	54.1	54.1	56.7	43.4	52.0	52.0	52.0	52.0	54.7	43.9	49.2	49.2	49.2	49.2	51.8	43.6
1920	75	49.3	45.8	53.8	32.9	56.3	20.9	45.7	43.9	51.8	32.3	55.3	20.0	41.9	41.9	48.5	30.7	53.7	18.9	38.1	38.1	44.1	28.6	51.3	17.6
	80	51.7	51.7	54.3	41.7	57.0	29.1	49.1	49.1	52.2	41.7	56.0	28.9	45.9	45.9	48.9	40.5	54.1	28.2	42.4	42.4	44.8	38.5	51.6	27.2
	85	54.3	54.3	55.1	50.3	57.8	36.4	52.6	52.6	53.1	51.1	56.7	37.1	50.0	50.0	50.0	50.0	54.6	37.0	46.8	46.8	46.8	46.8	51.8	36.6
	90	56.3	56.3	56.3	56.3	58.5	43.8	55.1	55.1	55.1	55.1	57.1	44.7	53.2	53.2	53.2	53.2	55.2	45.7	50.7	50.7	50.7	50.7	52.5	45.8

Notes:

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



Performance Data

(5, 6 Tons)

Table 6. Gross Cooling Capacities 5 Tons Three Phase Standard Efficiency WSC060A3,4,W

		Ambient Temperature																							
		85			95			105			115														
Air Flow	Ent DB (F)	Entering						Wet Bulb																	
		61	67	73	61	67	73	61	67	73	61	67	73												
CFM		MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC										
1800	75	56.7	48.0	64.9	37.3	68.9	25.0	52.5	45.7	61.6	35.5	67.6	23.9	48.1	43.4	56.8	33.2	65.2	22.5	43.5	41.0	51.4	31.6	60.9	20.6
	80	58.3	58.1	65.1	46.5	69.6	34.5	54.4	54.4	61.7	44.9	68.1	33.3	50.8	50.8	57.0	42.5	65.4	31.8	46.9	46.9	51.7	40.0	61.0	29.8
	85	62.4	62.4	65.6	55.7	70.0	42.1	59.1	59.1	62.3	54.3	68.5	42.0	55.4	55.4	57.8	52.1	65.7	41.1	51.4	51.4	52.7	49.6	61.1	39.0
	90	66.0	66.0	66.7	64.7	70.8	50.1	63.6	63.6	63.6	63.6	69.0	50.5	60.1	60.1	60.1	60.1	66.0	50.0	56.0	56.0	55.9	55.9	61.5	48.3
2000	75	58.3	51.1	65.8	38.9	69.3	25.3	54.0	48.8	62.9	37.3	68.2	24.2	49.5	46.4	58.2	35.0	65.9	22.9	44.8	44.0	52.6	32.5	61.9	21.1
	80	60.5	60.5	66.1	48.7	70.1	35.3	57.0	57.0	63.1	47.5	68.7	34.6	53.1	53.1	58.4	45.3	66.2	33.1	49.0	49.0	53.0	42.7	62.1	31.3
	85	64.7	64.7	66.8	58.5	71.0	43.7	61.8	61.8	63.9	57.9	69.2	43.5	58.0	58.0	59.6	55.9	66.5	43.0	53.8	53.8	54.4	53.4	62.2	41.4
	90	67.9	67.9	68.1	68.0	71.4	51.6	65.8	65.8	65.8	65.8	69.8	52.6	62.7	62.7	62.7	62.7	67.0	52.7	58.6	58.6	58.6	58.6	62.7	51.5
2200	75	59.8	54.1	66.4	40.2	69.6	25.7	55.4	51.8	63.8	38.9	68.6	24.6	50.9	49.4	59.3	36.7	66.4	23.3	46.0	46.0	53.6	34.1	62.7	21.5
	80	62.7	62.7	66.9	50.7	70.5	35.9	59.2	59.2	64.1	50.0	69.0	35.2	55.2	55.2	59.6	47.9	66.8	34.4	50.9	50.9	54.1	45.4	62.9	32.6
	85	66.4	66.4	67.7	61.0	71.4	44.7	64.0	64.0	65.1	61.0	69.8	44.8	60.3	60.3	61.0	59.5	67.2	44.8	55.9	55.9	55.9	55.9	63.0	43.6
	90	69.2	69.2	69.2	69.2	71.9	53.0	67.5	67.5	67.5	67.5	70.5	54.5	64.7	64.7	64.7	64.7	67.8	55.1	60.8	60.8	60.8	60.8	63.7	54.5
2400	75	61.0	56.9	67.0	41.3	69.9	26.0	56.7	54.6	64.6	40.4	68.9	25.0	51.9	51.9	60.2	38.3	66.8	23.7	47.5	47.5	54.4	35.7	63.3	22.0
	80	64.3	64.3	67.5	52.4	70.8	36.4	61.1	61.1	64.9	52.2	69.4	35.9	57.1	57.1	60.6	50.4	67.2	35.4	52.6	52.6	55.1	47.9	63.5	33.9
	85	67.6	67.6	68.5	63.3	71.8	45.6	65.5	65.5	66.1	63.8	70.2	46.0	62.2	62.2	62.2	62.2	67.8	46.4	57.8	57.8	57.8	57.8	63.7	45.6
	90	70.2	70.2	70.2	70.2	72.3	54.3	68.7	68.7	68.7	68.7	71.0	56.2	66.2	66.2	66.2	66.2	68.5	57.3	62.6	62.6	62.6	62.6	64.5	57.2

Notes:

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

Table 7. Gross Cooling Capacities 6 Tons Three Phase Standard Efficiency WSC072A3,4,W

		Ambient Temperature																							
		85			95			105			115														
Air Flow	Ent DB (F)	Entering						Wet Bulb																	
		61	67	73	61	67	73	61	67	73	61	67	73												
CFM		MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC						
2160	75	67.2	58.4	75.7	44.4	79.1	29.2	62.2	56.0	72.2	43.0	78.1	28.2	57.0	53.5	66.8	40.7	75.9	27.0	51.7	51.0	60.8	38.2	72.1	25.6
	80	69.3	69.3	76.0	55.5	80.0	40.6	65.3	65.3	72.5	54.6	78.6	39.6	61.0	61.0	67.3	52.2	76.2	38.3	56.6	56.6	61.4	49.6	72.2	37.0
	85	74.1	74.1	76.6	66.2	80.8	49.0	70.7	70.7	73.4	66.1	79.4	50.9	66.5	66.5	68.4	63.8	76.4	49.6	62.1	62.1	62.8	61.4	72.4	48.2
	90	77.4	77.4	77.8	76.6	81.7	58.2	75.2	75.2	75.2	75.2	80.1	59.8	71.9	71.9	71.9	71.9	77.0	59.9	67.7	67.7	67.7	67.7	72.9	59.4
2400	75	69.1	62.4	76.5	46.4	79.5	29.7	64.1	59.9	73.6	45.2	78.5	28.7	58.8	57.4	68.4	43.0	76.5	27.4	53.6	53.6	62.2	40.5	73.1	26.1
	80	72.3	72.3	77.0	57.9	80.3	42.3	68.3	68.3	74.0	57.8	79.1	41.2	63.9	63.9	69.0	55.7	76.9	40.0	59.3	59.3	63.0	53.2	73.2	38.7
	85	76.2	76.2	77.8	69.3	81.3	50.1	73.7	73.7	74.9	70.1	79.9	51.0	69.7	69.7	70.4	68.7	77.3	51.5	65.2	65.2	65.2	65.2	73.4	51.0
	90	79.1	79.1	79.1	79.1	82.2	59.7	77.4	77.4	77.4	77.4	80.7	61.6	74.6	74.6	74.6	74.6	78.0	62.8	70.9	70.9	70.9	70.9	74.2	63.0
2640	75	70.7	66.2	77.1	48.4	79.8	30.1	65.8	63.8	74.5	47.2	78.9	29.1	60.5	60.5	69.6	45.2	77.0	27.9	55.7	55.7	63.4	42.7	73.8	26.5
	80	74.4	74.4	77.7	60.0	80.6	43.9	70.9	70.9	75.0	60.7	79.4	42.9	66.5	66.5	70.3	59.1	77.4	41.7	61.7	61.7	64.5	56.7	74.0	40.3
	85	77.8	77.8	78.7	71.9	81.6	51.0	75.7	75.7	76.3	73.7	80.3	52.3	72.4	72.4	72.4	72.4	78.0	53.3	67.9	67.9	67.9	67.9	74.4	53.6
	90	80.1	80.1	80.1	80.1	82.6	61.0	78.9	78.9	78.9	78.9	81.2	63.3	76.5	76.5	76.5	76.5	78.8	65.3	73.2	73.2	73.2	73.2	75.3	66.4
2880	75	72.2	70.0	77.6	48.8	80.0	30.5	67.2	67.2	75.2	49.0	79.1	29.2	62.5	62.5	70.6	47.3	77.3	28.4	57.6	57.6	64.5	44.8	74.3	27.0
	80	75.9	75.9	78.3	61.8	81.0	41.5	73.2	73.2	75.9	63.3	80.1	42.5	68.8	68.8	71.5	62.4	78.0	42.6	63.9	63.9	65.8	60.1	74.6	42.0
	85	78.8	78.8	79.3	74.1	81.9	51.9	77.1	77.1	77.4	76.8	80.7	53.4	74.2	74.2	74.3	74.3	78.5	55.0	70.0	70.0	70.1	70.1	75.1	55.9
	90	80.9	80.9	80.9	80.9	82.9	62.2	79.9	79.9	79.9	79.9	81.6	64.8	77.9	77.9	77.9	77.9	79.4	67.5	74.9	74.9	74.9	74.9	76.2	69.4

Notes:

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



Performance Data

(7½, 10Tons)

Table 8. Gross Cooling Capacities 7½ Tons Three Phase Standard Efficiency WSC090A3,4,W

Air Ent Flow DB		Ambient Temperature																							
		85			95			105			115														
		Entering Wet Bulb																							
CFM (F)	61	67	73	61	67	73	61	67	73	61	67	73	61	67	73										
																MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
2700	75	84.9	72.7	94.8	55.6	98.6	36.8	78.6	69.6	91.0	53.9	97.7	35.7	72.1	66.4	84.4	51.0	95.3	34.2	65.3	63.2	76.7	47.8	90.8	32.4
	80	86.9	86.9	95.1	68.8	99.8	50.9	81.9	81.9	91.4	67.7	98.8	50.2	76.6	76.6	85.0	64.9	95.8	48.2	70.9	70.9	77.4	61.7	90.9	46.3
	85	92.6	92.6	96.0	81.8	101.0	61.1	88.6	88.6	92.3	81.6	99.7	62.3	83.4	83.4	86.4	79.2	96.0	61.6	77.8	77.8	79.4	76.1	91.2	59.9
	90	96.7	96.7	97.4	94.3	102.1	72.3	94.2	94.2	94.2	94.2	100.7	74.5	90.1	90.1	90.1	90.1	96.8	74.4	84.9	84.9	84.9	84.9	91.8	73.6
3000	75	87.3	77.4	95.9	57.9	99.1	37.3	81.0	74.4	92.5	56.3	98.3	36.2	74.4	71.2	86.3	53.7	96.1	34.8	67.2	67.2	78.5	50.5	92.0	33.0
	80	90.5	90.5	96.3	71.5	100.3	50.7	85.8	85.8	93.0	71.6	99.4	51.2	80.1	80.1	87.0	69.2	96.7	50.3	74.3	74.3	79.6	66.0	92.2	48.4
	85	95.2	95.2	97.4	85.3	101.5	62.2	92.2	92.2	94.2	86.5	100.5	64.1	87.3	87.3	88.9	85.0	97.2	64.2	81.6	81.6	82.3	82.1	92.6	63.5
	90	98.7	98.7	98.9	98.1	102.7	74.0	96.9	96.9	96.9	96.9	101.6	77.1	93.5	93.5	93.5	93.5	98.1	77.9	88.7	88.7	88.7	88.7	93.5	78.1
3300	75	89.3	82.0	96.7	59.5	99.4	37.8	83.3	79.1	93.7	58.7	98.7	36.8	76.5	75.9	87.8	56.3	96.7	35.4	69.8	69.8	80.1	53.1	92.9	33.7
	80	92.9	92.9	97.2	73.8	100.6	54.8	88.9	88.9	94.3	75.0	99.9	52.0	83.4	83.4	88.8	73.3	97.6	52.2	77.3	77.3	81.5	70.2	93.3	50.4
	85	97.0	97.0	98.4	88.2	101.9	63.3	94.7	94.7	95.8	90.8	101.0	65.6	90.6	90.6	91.3	90.6	98.5	67.2	85.0	85.0	85.0	85.0	93.7	66.6
	90	100.0	100.0	100.0	100.0	103.1	75.4	98.7	98.7	98.7	98.7	102.3	79.2	95.9	95.9	95.9	95.9	99.1	80.9	91.8	91.8	91.8	91.8	94.9	82.2
3600	75	91.0	86.2	97.3	60.8	99.7	38.3	85.3	83.8	94.5	61.1	99.0	37.3	78.4	78.4	89.1	58.8	97.1	35.9	72.1	72.1	81.5	55.7	93.6	34.3
	80	94.8	94.8	97.8	75.8	100.9	56.7	91.5	91.5	95.4	78.1	100.2	55.6	86.2	86.2	90.4	77.2	98.1	53.4	80.0	80.0	83.3	74.4	94.1	52.5
	85	98.3	98.3	99.1	90.7	102.2	64.2	96.5	96.5	97.1	94.5	101.5	66.9	93.0	93.0	93.0	93.0	99.0	68.9	87.8	87.8	87.8	87.8	94.7	69.4
	90	100.9	100.9	100.9	100.8	103.5	76.8	100.0	100.0	100.0	100.0	102.7	81.1	97.7	97.7	97.7	97.7	99.9	83.5	94.0	94.0	94.0	94.0	96.1	85.9

Notes:

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

Table 9. Gross Cooling Capacities 10 Tons Three Phase Standard Efficiency WSC120A3,4,W

Air Ent Flow DB		Ambient Temperature																							
		85			95			105			115														
		Entering Wet Bulb																							
CFM (F)	61	67	73	61	67	73	61	67	73	61	67	73	61	67	73										
																MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
3600	75	110.8	96.7	123.3	73.1	127.7	47.6	102.7	92.6	118.5	70.9	126.5	46.1	94.5	88.6	110.3	67.5	123.6	44.2	86.2	84.6	100.9	63.7	118.4	42.0
	80	114.3	114.3	123.8	92.0	129.2	64.9	107.9	107.9	119.0	89.8	127.8	65.2	101.1	101.1	111.1	86.4	124.3	63.2	94.1	94.1	102.0	82.4	118.6	60.9
	85	121.4	121.4	125.0	108.3	130.7	79.5	116.7	116.7	120.4	108.6	129.1	81.4	110.3	110.3	113.3	105.8	124.5	81.0	103.3	103.3	104.9	102.1	119.0	79.5
	90	126.4	126.4	126.9	124.8	132.2	94.4	123.4	123.4	123.4	130.5	97.7	118.7	118.7	118.7	118.7	125.8	98.0	112.4	112.4	112.4	112.4	120.0	97.6	
4000	75	113.8	103.0	124.4	75.6	128.2	48.3	105.9	99.1	120.3	74.2	127.0	46.9	97.5	95.1	112.7	71.1	124.4	45.0	89.0	89.0	103.2	67.1	119.7	42.8
	80	118.7	118.7	125.2	94.3	129.7	65.7	112.8	112.8	121.0	94.8	128.5	66.4	105.7	105.7	113.8	92.1	125.1	65.4	98.5	98.5	104.8	88.2	120.1	63.7
	85	124.5	124.5	126.6	112.7	131.3	81.0	120.9	120.9	122.8	114.9	130.0	83.6	115.1	115.1	116.6	113.7	126.5	84.9	108.2	108.2	108.2	108.2	120.6	83.8
	90	128.5	128.5	128.5	128.5	132.8	96.5	126.4	126.4	126.4	131.5	100.8	122.5	122.5	122.5	122.5	127.3	102.3	117.1	117.1	117.1	117.1	121.9	103.3	
4400	75	116.5	109.1	125.6	78.0	128.5	49.0	108.8	105.5	121.7	77.4	127.6	47.6	99.8	99.8	114.6	74.6	125.0	45.8	92.3	92.3	105.2	70.7	120.6	43.7
	80	121.6	121.6	126.2	97.3	130.0	72.0	116.8	116.8	122.6	99.3	129.1	67.4	109.9	109.9	116.1	97.6	126.0	67.5	102.4	102.4	107.3	93.9	121.2	66.4
	85	126.5	126.5	127.8	116.4	131.7	82.3	123.7	123.7	124.7	120.3	130.6	85.4	119.0	119.0	119.0	119.0	126.9	86.7	112.3	112.3	112.3	112.3	121.9	87.6
	90	129.9	129.9	129.9	129.9	133.2	98.3	128.4	128.4	128.4	132.2	103.4	125.2	125.2	125.2	125.2	128.3	105.9	120.4	120.4	120.4	120.4	123.5	108.2	
4800	75	118.6	114.7	126.2	79.7	128.8	49.7	110.7	110.7	122.6	80.1	127.9	48.3	103.1	103.1	116.2	77.9	125.5	46.6	95.4	95.4	107.0	74.2	121.3	44.5
	80	123.7	123.7	127.0	99.8	130.3	74.6	119.8	119.8	123.9	103.2	129.5	68.4	113.4	113.4	118.0	102.8	126.9	69.3	105.9	105.9	109.5	99.4	121.6	68.7
	85	127.8	127.8	128.6	119.4	132.1	83.4	125.8	125.8	125.8	125.8	131.0	87.1	121.7	121.7	121.7	121.7	127.6	89.1	115.8	115.8	115.8	115.8	122.9	91.0
	90	130.8	130.8	130.8	130.8	133.6	100.1	129.7	129.7	129.7	132.7	105.7	127.0	127.0	127.0	127.0	129.2	109.1	122.8	122.8	122.8	122.8	124.8	112.5	

Notes:

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



Performance Data

Table 10. Direct Drive Evaporator Fan Performance 3-5 Tons WSC036A, WSC048A, WSC060A

		External Static Pressure (Inches of Water) & Motor Power (Bhp) ⁽ⁱ⁾								
		Standard Motor				Oversized Motor ⁽ⁱⁱ⁾				
Tons	Unit Model Number	CFM	High Speed		Low Speed		High Speed		Low Speed	
			ESP	BHP	ESP	BHP	ESP	BHP	ESP	BHP
3	WSC036A	960	0.81	0.36	0.61	0.28	0.96	0.39	0.89	0.35
	Horizontal Airflow	1020	0.77	0.37	0.57	0.28	0.94	0.41	0.86	0.47
		1080	0.73	0.38	0.50	0.29	0.91	0.43	0.82	0.39
		1140	0.69	0.39	0.42	0.29	0.88	0.44	0.77	0.40
		1200	0.66	0.40	0.34	0.30	0.84	0.45	0.74	0.41
		1260	0.60	0.41	0.26	0.30	0.80	0.46	0.70	0.42
		1320	0.55	0.42	0.14	0.31	0.75	0.48	0.65	0.44
		1380	0.49	0.42	0.05	0.31	0.70	0.49	0.59	0.45
1440	0.44	0.43	—	—	0.64	0.52	0.54	0.48		
4	WSC048A	1280	0.93	0.53	0.81	0.47	1.20	0.67	0.99	0.56
	Horizontal Airflow	1360	0.87	0.54	0.75	0.47	1.15	0.68	0.94	0.58
		1440	0.80	0.54	0.68	0.48	1.10	0.70	0.88	0.60
		1520	0.73	0.55	0.60	0.48	1.05	0.73	0.81	0.63
		1600	0.66	0.55	0.51	0.49	1.00	0.75	0.74	0.64
		1680	0.57	0.56	0.38	0.49	0.95	0.78	0.65	0.66
		1760	0.47	0.56	0.23	0.50	0.90	0.82	0.50	0.68
		1840	0.37	0.57	0.13	0.50	0.83	0.83	0.35	0.70
1920	0.27	0.57	—	—	0.75	0.85	—	0.73		
5	WSC060A	1600	0.90	0.78	0.82	0.64	1.20	0.90	1.05	0.85
	Horizontal Airflow	1700	0.85	0.82	0.68	0.65	1.15	0.94	0.95	0.89
		1800	0.80	0.85	0.56	0.65	1.05	0.98	0.85	0.91
		1900	0.70	0.88	0.46	0.65	0.98	1.02	0.75	0.94
		2000	0.60	0.90	0.30	0.66	0.90	1.05	0.65	0.95
		2100	0.50	0.93	0.14	0.66	0.80	1.10	0.50	0.96
		2200	0.40	0.95	0.05	0.67	0.70	1.12	0.35	0.96
		2300	0.30	0.97	—	—	0.60	1.17	0.15	0.97
2400	0.20	1.00	—	—	0.48	1.20	—	—		
3	WSC036A	960	0.86	0.36	0.61	0.28	1.01	0.39	0.89	0.35
	Downflow Airflow	1020	0.82	0.37	0.62	0.28	0.99	0.41	0.91	0.47
		1080	0.78	0.38	0.55	0.29	0.96	0.43	0.87	0.39
		1140	0.74	0.39	0.47	0.29	0.93	0.44	0.82	0.40
		1200	0.71	0.40	0.39	0.30	0.89	0.45	0.79	0.41
		1260	0.65	0.41	0.31	0.30	0.85	0.46	0.75	0.42
		1320	0.60	0.42	0.19	0.31	0.80	0.48	0.70	0.44
		1380	0.54	0.42	0.10	0.31	0.75	0.49	0.64	0.45
1440	0.49	0.43	—	—	0.69	0.52	0.59	0.48		
4	WSC048A	1280	0.98	0.53	0.86	0.47	1.25	0.67	1.04	0.56
	Downflow Airflow	1360	0.92	0.54	0.80	0.47	1.20	0.68	0.99	0.58
		1440	0.85	0.54	0.73	0.48	1.15	0.70	0.93	0.60
		1520	0.78	0.55	0.65	0.48	1.10	0.73	0.86	0.63
		1600	0.71	0.55	0.56	0.49	1.05	0.75	0.79	0.64
		1680	0.62	0.56	0.43	0.49	1.00	0.78	0.70	0.66
		1760	0.52	0.56	0.28	0.50	0.95	0.82	0.55	0.68
		1840	0.42	0.57	0.18	0.50	0.88	0.83	0.40	0.70
1920	0.32	0.57	—	—	0.80	0.85	—	—		
5	WSC060A	1600	0.95	0.78	0.87	0.64	1.25	0.90	1.10	0.85
	Downflow Airflow	1700	0.90	0.82	0.73	0.65	1.20	0.94	1.00	0.89
		1800	0.85	0.85	0.61	0.65	1.10	0.98	0.90	0.91
		1900	0.75	0.88	0.51	0.65	1.03	1.02	0.80	0.94
		2000	0.65	0.90	0.35	0.66	0.95	1.05	0.70	0.95
		2100	0.55	0.93	0.19	0.66	0.85	1.10	0.55	0.96
		2200	0.45	0.95	0.10	0.67	0.75	1.12	0.40	0.96
		2300	0.35	0.97	—	—	0.65	1.17	0.20	0.97
2400	0.25	1.00	—	—	0.53	1.20	—	—		

Notes:

1. Fan motor heat (MBh) = 4.39 x Fan Bhp

Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.

⁽ⁱ⁾ Data includes pressure drop due to wet coil and filters.

⁽ⁱⁱ⁾ 5 ton oversized motor performance is with 12 x 11 FC blower wheel.



Performance Data

Table 11. Belt Drive Evaporator Fan Performance 3 Tons WSC036A3,4,W Downflow Airflow

CFM	External Static Pressure (Inches of Water)																			
	.10		.20		.30		.40		.50		.60		.70		.80		.90		1.00	
	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⁽ⁱ⁾										1-HP Standard Motor Drive										
960	—	—	528	0.12	599	0.16	658	0.20	713	0.24	763	0.29	810	0.33	855	0.38	898	0.43	939	0.49
1080	—	—	557	0.15	625	0.19	685	0.24	738	0.28	786	0.33	832	0.38	876	0.43	917	0.48	957	0.54
1200	—	—	588	0.19	652	0.23	712	0.28	764	0.33	811	0.38	856	0.43	898	0.48	939	0.54	978	0.59
1320	552	0.18	622	0.23	681	0.27	738	0.32	790	0.38	838	0.44	882	0.49	923	0.55	962	0.60	1000	0.66
1440	588	0.23	657	0.28	713	0.33	765	0.37	817	0.43	865	0.50	909	0.56	949	0.62	987	0.68	1024	0.74

Continued

CFM	External Static Pressure (Inches of Water)									
	1.10		1.20		1.30		1.40		1.50	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1-HP Standard Motor & Drive										
960	978	0.54	1016	0.60	1052	0.66	1086	0.72	1120	0.78
1080	995	0.59	1033	0.65	1069	0.71	1103	0.78	1136	0.84
1200	1015	0.65	1051	0.71	1086	0.77	1120	0.84	1154	0.91
1320	1036	0.72	1072	0.78	1106	0.85	1138	0.91	1171	0.98
1440	1060	0.80	1094	0.86	1128	0.93	1160	1.00	1192	1.07
1-HP Standard Motor & Field Supplied High Static Drive⁽ⁱⁱ⁾										

For Standard Evaporator Fan Speed (RPM), reference [Table 23](#).
Notes:
Data includes pressure drop due to standard filters and wet coils. No accessories or options are included in pressure drop data. Refer to [Table 27](#) to determine additional static pressure drop due to other options/accessories.
Fan Motor Heat (MBH) = 2.829 x Fan BHP+.4024.
Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.

⁽ⁱ⁾ Field Supplied Fan Sheave AK69 required. Field Supplied Belt may be necessary.
⁽ⁱⁱ⁾ Field Supplied Fan Sheave AK41 required. Field Supplied Belt may be necessary.

Table 12. Belt Drive Evaporator Fan Performance 3 Tons WSC036A3,4,W Horizontal Airflow

CFM	External Static Pressure (Inches of Water)																			
	.10		.20		.30		.40		.50		.60		.70		.80		.90		1.00	
	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⁽ⁱ⁾										1-HP Standard Motor Drive										
960	—	—	588	0.15	661	0.19	725	0.24	782	0.29	832	0.35	878	0.40	919	0.46	958	0.51	996	0.56
1080	531	0.13	622	0.18	694	0.24	756	0.29	813	0.34	864	0.40	910	0.46	954	0.52	993	0.59	1031	0.65
1200	570	0.17	654	0.23	727	0.28	787	0.34	843	0.40	895	0.46	942	0.52	986	0.59	1026	0.66	1064	0.73
1320	610	0.22	687	0.28	760	0.34	821	0.40	875	0.46	925	0.53	973	0.59	1017	0.66	1058	0.73	1095	0.81
1440	651	0.27	723	0.33	793	0.40	855	0.47	908	0.53	956	0.60	1003	0.67	1047	0.75	1088	0.82	1127	0.89
1-HP Standard Motor & Field Supplied High Static Drive⁽ⁱⁱ⁾																				

Continued

CFM	External Static Pressure (Inches of Water)									
	1.10		1.20		1.30		1.40		1.50	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1-HP Standard Motor & Drive										
960	1032	0.62	1066	0.67	1101	0.73	1133	0.79	1166	0.86
1080	1065	0.70	1099	0.76	1132	0.82	1164	0.89	1194	0.95
1200	1099	0.80	1133	0.86	1166	0.93	1197	0.99	1227	1.06
1320	1132	0.88	1167	0.96	1200	1.04	1230	1.11	1261	1.19
1440	1164	0.97	1199	1.05	1232	1.14	1263	1.22	1294	1.30
1-HP Standard Motor & Field Supplied High Static Drive⁽ⁱⁱⁱ⁾										

For Standard Evaporator Fan Speed (RPM), reference [Table 23](#).
Notes:
Data includes pressure drop due to standard filters and wet coils. No accessories or options are included in pressure drop data. Refer to [Table 27](#) to determine additional static pressure drop due to other options/accessories.
Fan Motor Heat (MBH) = 2.829 x Fan BHP+.4024.
Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.

⁽ⁱ⁾ Field Supplied Fan Sheave AK69 required. Field Supplied Belt may be necessary.
⁽ⁱⁱ⁾ Field Supplied Fan Sheave AK41 required. Field Supplied Belt may be necessary.
⁽ⁱⁱⁱ⁾ Field Supplied Fan Sheave AK41 required. Field Supplied Belt may be necessary.



Performance Data

(4 Tons)

Table 13. Belt Drive Evaporator Fan Performance 4 Tons WSC048A3,4,W Downflow Airflow

External Static Pressure (Inches of Water)																					
CFM	.10		.20		.30		.40		.50		.60		.70		.80		.90		1.00		
	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⁽ⁱ⁾											1-HP Standard Motor & Drive										
1280	—	—	616	0.22	677	0.26	734	0.31	787	0.37	834	0.42	878	0.48	919	0.53	959	0.59	997	0.64	
1440	596	0.23	663	0.29	719	0.33	772	0.38	823	0.44	871	0.51	914	0.57	954	0.63	993	0.69	1029	0.75	
1600	647	0.31	711	0.37	764	0.42	813	0.47	860	0.53	906	0.59	951	0.66	992	0.74	1029	0.80	1065	0.87	
1760	701	0.41	758	0.46	811	0.52	856	0.58	901	0.64	944	0.70	986	0.77	1027	0.85	1066	0.93	1102	1.00	
1920	755	0.52	807	0.57	859	0.64	903	0.71	945	0.77	985	0.83	1024	0.89	1063	0.97	1101	1.05	1137	1.14	

Continued

External Static Pressure (Inches of Water)										
CFM	1.10		1.20		1.30		1.40		1.50	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1-HP Standard Motor & Drive										
1280	1033	0.70	1069	0.77	1103	0.83	1136	0.89	1170	0.96
1440	1066	0.81	1099	0.87	1133	0.94	1165	1.01	1196	1.08
1600	1099	0.93	1132	1.00	1166	1.07	1196	1.14	1228	1.21
1760	1136	1.08	1168	1.15	1200	1.22	1229	1.29	—	—
1920	1172	1.23	1205	1.31	1236	1.39	—	—	—	—

For Standard Evaporator Fan Speed (RPM), reference [Table 23](#).
Notes:
Data includes pressure drop due to standard filters and wet coils. No accessories or options are included in pressure drop data. Refer to [Table 27](#) to determine additional static pressure drop due to other options/accessories.
Fan Motor Heat (MBH) = 2.829 x Fan BHP+.4024.
Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.

⁽ⁱ⁾ Field Supplied Fan Sheave AK61 required. Field Supplied Belt may be necessary.

Table 14. Belt Drive Evaporator Fan Performance 4 Tons WSC048A3,4,W Horizontal Airflow

External Static Pressure (Inches of Water)																					
CFM	.10		.20		.30		.40		.50		.60		.70		.80		.90		1.00		
	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⁽ⁱ⁾											1-HP Standard Motor & Drive										
1280	604	0.20	683	0.26	756	0.32	816	0.39	869	0.45	920	0.51	967	0.57	1011	0.64	1052	0.71	1090	0.79	
1440	660	0.28	731	0.34	800	0.41	862	0.48	914	0.54	963	0.61	1009	0.68	1053	0.76	1094	0.83	1133	0.91	
1600	717	0.36	783	0.43	846	0.51	907	0.58	961	0.66	1008	0.73	1053	0.81	1095	0.89	1135	0.97	1174	1.05	
1760	774	0.47	837	0.54	894	0.62	952	0.70	1006	0.79	1054	0.87	1098	0.95	1139	1.04	1178	1.12	1216	1.21	
1920	833	0.59	892	0.67	946	0.76	998	0.85	1050	0.94	1100	1.03	1144	1.12	1185	1.21	1224	1.30	1259	1.39	

Continued

External Static Pressure (Inches of Water)										
CFM	1.10		1.20		1.30		1.40		1.50	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1-HP Standard Motor & Drive										
1280	1125	0.86	1160	0.94	1192	1.01	1223	1.08	1254	1.15
1440	1169	0.98	1204	1.07	1237	1.15	1269	1.23	1300	1.32
1600	1211	1.13	1247	1.21	1280	1.30	1312	1.39	1343	1.48
1760	1253	1.30	1289	1.39	1322	1.47	—	—	—	—
1920	1295	1.48	—	—	—	—	—	—	—	—

1-HP Standard Motor & Field Supplied High Static Drive

For Standard Evaporator Fan Speed (RPM), reference [Table 23](#).
Notes:
Data includes pressure drop due to standard filters and wet coils. No accessories or options are included in pressure drop data. Refer to [Table 27](#) to determine additional static pressure drop due to other options/accessories.
Fan Motor Heat (MBH) = 2.829 x Fan BHP+.4024.
Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.

⁽ⁱ⁾ Field Supplied Fan Sheave AK61 required. Field Supplied Belt may be necessary.

⁽ⁱⁱ⁾ Field Supplied Fan Sheave AK41 required. Field Supplied Belt may be necessary.



Performance Data

(5 Tons)

Table 15. Belt Drive Evaporator Fan Performance 5 Tons WSC060A3,4,W Downflow Airflow

CFM	External Static Pressure (Inches of Water)																			
	.10		.20		.30		.40		.50		.60		.70		.80		.90		1.00	
	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⁽¹⁾										1-HP Standard Motor & Drive										
1600	—	—	703	0.36	757	0.41	806	0.47	854	0.52	899	0.58	944	0.65	985	0.73	1023	0.79	1060	0.86
1800	706	0.42	760	0.47	815	0.54	861	0.60	904	0.66	947	0.72	988	0.78	1028	0.86	1067	0.94	1104	1.02
2000	773	0.57	821	0.62	873	0.69	918	0.76	958	0.83	998	0.90	1036	0.96	1073	1.02	1111	1.10	1147	1.19
2200	840	0.75	885	0.80	930	0.87	977	0.95	1016	1.03	1053	1.10	1089	1.17	1124	1.24	1158	1.31	1191	1.39
2400	909	0.96	950	1.02	990	1.08	1034	1.16	1074	1.25	1110	1.00	1143	1.42	1177	1.50	—	—	—	—

Continued

CFM	External Static Pressure (Inches of Water)									
	1.10		1.20		1.30		1.40		1.50	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1-HP Standard Motor & Drive										
1600	1093	0.92	1126	0.99	1160	1.06	1190	1.13	1222	1.20
1800	1138	1.10	1171	1.17	1203	1.25	1232	1.32	1262	1.39
2000	1182	1.28	1215	1.37	1246	1.46	—	—	—	—
2200	1226	1.48	—	—	—	—	—	—	—	—
2400	—	—	—	—	—	—	—	—	—	—

For Standard Evaporator Fan Speed (RPM), reference [Table 23](#).
Notes:
Data includes pressure drop due to standard filters and wet coils. No accessories or options are included in pressure drop data. Refer to [Table 27](#) to determine additional static pressure drop due to other options/accessories.
Fan Motor Heat (MBH) = 2.829 x Fan BHP+.4024.
Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.

⁽¹⁾ Field Supplied Fan Sheave AK56 required. Field Supplied Belt may be necessary.

Table 16. Belt Drive Evaporator Fan Performance 5 Tons WSC060A3,4,W Horizontal Airflow

CFM	External Static Pressure (Inches of Water)																			
	.10		.20		.30		.40		.50		.60		.70		.80		.90		1.00	
	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⁽¹⁾										1-HP Standard Motor & Drive										
1600	707	0.35	774	0.42	837	0.50	898	0.57	953	0.65	1001	0.72	1045	0.80	1087	0.87	1129	0.95	1168	1.03
1800	778	0.48	840	0.56	897	0.64	953	0.72	1008	0.81	1058	0.89	1102	0.98	1143	1.06	1181	1.15	1219	1.23
2000	850	0.65	908	0.73	961	0.81	1012	0.90	1062	1.00	1111	1.09	1157	1.19	1198	1.28	1237	1.37	1274	1.47
2200	923	0.84	978	0.93	1028	1.02	1075	1.12	1120	1.22	1166	1.32	1211	1.43	—	—	—	—	—	—
2400	997	1.07	1049	1.17	1096	1.27	1140	1.37	1183	1.48	—	—	—	—	—	—	—	—	—	—

Continued

CFM	External Static Pressure (Inches of Water)									
	1.10		1.20		1.30		1.40		1.50	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1-HP Standard Motor										
1600	1206	1.12	1241	1.20	1275	1.28	1306	1.37	1338	1.46
1800	1256	1.32	1291	1.41	1326	1.50	—	—	—	—
2000	—	—	—	—	—	—	—	—	—	—
2200	—	—	—	—	—	—	—	—	—	—
2400	—	—	—	—	—	—	—	—	—	—

For Standard Evaporator Fan Speed (RPM), reference [Table 23](#).
Notes:
Data includes pressure drop due to standard filters and wet coils. No accessories or options are included in pressure drop data. Refer to [Table 27](#) to determine additional static pressure drop due to other options/accessories.
Fan Motor Heat (MBH) = 2.829 x Fan BHP+.4024.
Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.

⁽¹⁾ Field Supplied Fan Sheave AK56 required. Field Supplied Belt may be necessary.



Performance Data

(6 Tons)

Table 17. Belt Drive Evaporator Fan Performance 6 Tons WSC072A3,4,W* 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⁽ⁱ⁾											1-HP Standard Motor & Drive										
1920	—	—	—	—	588	0.35	643	0.43	693	0.50	738	0.57	782	0.65	823	0.73	862	0.81	900	0.89	
2160	—	—	564	0.37	618	0.44	672	0.52	721	0.60	765	0.68	806	0.76	847	0.85	885	0.93	922	1.02	
2400	—	—	602	0.47	652	0.54	701	0.63	750	0.72	794	0.81	834	0.90	873	0.98	909	1.08	945	1.17	
2640	589	0.50	642	0.59	690	0.67	734	0.76	779	0.85	822	0.95	864	1.05	901	1.15	936	1.24	971	1.34	
2880	634	0.63	682	0.74	728	0.82	770	0.91	810	1.01	851	1.11	892	1.22	930	1.33	965	1.44	999	1.54	

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 & High Static Drive Kit (or 2-HP Oversized Motor and Drive)															
1920	937	0.98	971	1.06	1004	1.14	1037	1.22	1068	1.30	1097	1.38	1127	1.47	1154	1.55	1182	1.64	1210	1.74	
2160	957	1.12	991	1.21	1024	1.30	1057	1.40	1087	1.49	1117	1.58	1146	1.67	1174	1.76	1201	1.85	1227	1.95	
2400	980	1.27	1013	1.37	1046	1.47	1076	1.57	1106	1.68	1137	1.78	1166	1.89	1194	1.99	1220	2.08	1248	2.19	
2640	1004	1.44	1036	1.55	1067	1.65	1098	1.77	1129	1.88	1158	1.99	1185	2.10	1214	2.22	—	—	—	—	
2880	1030	1.64	1061	1.75	1092	1.86	1123	1.98	1151	2.09	1181	2.22	—	—	—	—	—	—	—	—	

2-HP Oversized Motor & Drive

For Standard Evaporator Fan Speed (RPM), reference [Table 23](#).

Notes:

Data includes pressure drop due to standard filters and wet coils. No accessories or options are included in pressure drop data. Refer to [Table 27](#) to determine additional static pressure drop due to other options/accessories.

1-HP Fan Motor Heat (MBH) = 2.829 x Fan BHP+.4024. 2-HP Fan Motor Heat (MBH) = 3.000 x Fan BHP+.5000

Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.

(i) Field Supplied Fan Sheave AK84 and Belt AX34 required.

Table 18. Belt Drive Evaporator Fan Performance 6 Tons WSC072A3,4,W 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⁽ⁱ⁾											1-HP Standard Motor & Drive										
1920	—	—	580	0.33	641	0.41	692	0.47	738	0.54	783	0.63	827	0.71	870	0.79	912	0.88	951	0.96	
2160	578	0.37	623	0.43	679	0.51	731	0.59	775	0.67	817	0.74	857	0.83	896	0.93	935	1.02	974	1.12	
2400	633	0.49	673	0.56	718	0.63	769	0.72	814	0.82	855	0.90	893	0.98	929	1.08	965	1.18	999	1.29	
2640	688	0.64	725	0.71	762	0.79	808	0.87	853	0.98	894	1.09	931	1.17	966	1.26	1000	1.36	1032	1.47 ⁽ⁱⁱ⁾	
2880	743	0.81	778	0.90	811	0.98	848	1.06	891	1.16	932	1.28	970	1.40	1004	1.49	1037	1.59	1068	1.69	
1-HP Standard Motor & High Static Drive Kit (or 2-HP Oversized Motor)											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						1-HP Standard Motor & High Static Drive Kit (or 2-HP Oversized Motor and Drive)															
1920	990	1.05	1026	1.14	1062	1.24	1096	1.33	1130	1.43	1160	1.52	1190	1.61	1218	1.71	1247	1.80	1273	1.90	
2160	1010	1.21	1047	1.31	1082	1.40	1116	1.50	1150	1.61	1182	1.71	1211	1.81	1242	1.92	1271	2.03	1298	2.14	
2400	1035	1.39	1070	1.50	1104	1.60	1137	1.70	1168	1.81	1201	1.92	1232	2.03	1261	2.14	1291	2.26	—	—	
2640	1065	1.59	1097	1.71	1129	1.82	1161	1.93	1192	2.05	1223	2.16	1252	2.27	—	—	—	—	—	—	
2880	1099	1.80	1130	1.93	1159	2.05	1188	2.18	1217	2.30	—	—	—	—	—	—	—	—	—	—	
2-HP Oversized Motor & Drive											2-HP Oversized Motor & Field Supplied Drive⁽ⁱⁱⁱ⁾										

For Standard Evaporator Fan Speed (RPM), reference [Table 23](#).

Notes: Data includes pressure drop due to standard filters and wet coils. No accessories or options are included in pressure drop data. Refer to [Table 27](#) to determine additional static pressure drop due to other options/accessories.

1-HP Fan Motor Heat (MBH) = 2.829 x Fan BHP+.4024. 2-HP Fan Motor Heat (MBH) = 3.000 x Fan BHP+.5000

Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.

(i) Field Supplied Fan Sheave AK84 and Belt AX34 required.

(ii) 1-HP Standard Motor & High Static Drive Kit (or 2-HP Oversized Motor).

(iii) Field Supplied Fan Sheave AK54 and Belt AX30 required.



Performance Data

(7½ Tons)

Table 19. Belt Drive Evaporator Fan Performance 7½ Tons WSC090,092A3,4,W 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	BHP
1-HP Standard Motor & Field Supplied Low Static Drive⁽ⁱ⁾											1-HP Standard Motor & Drive										
2400	—	—	620	0.49	670	0.57	720	0.66	768	0.76	810	0.84	850	0.93	888	1.02	925	1.12	961	1.22	
2700	622	0.57	673	0.66	719	0.74	763	0.84	807	0.94	850	1.04	889	1.14	926	1.24	961	1.34	995	1.44	
3000	680	0.76	727	0.87	770	0.95	810	1.05	849	1.16	890	1.27	929	1.38	967	1.50	1000	1.61	1034	1.72	
3300	739	0.98	782	1.11	823	1.21	861	1.30	897	1.41	933	1.50	969	1.66	1006	1.78	1041	1.91	1074	2.03	
3600	798	1.25	838	1.39	876	1.50	913	1.61	947	1.72	980	1.84	1013	1.97	1047	2.11	1080	2.24	1113	2.38	
3-HP Oversized Motor & Field Supplied Sheave⁽ⁱⁱ⁾											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	BHP
1-HP Standard Motor & Drive											3-HP Oversized Motor & Drive										
2400	995	1.32	1027	1.42	1060	1.52	1091	1.62	1121	1.73	1151	1.83	1180	1.93	1207	2.04	1234	2.14	1260	2.24	
2700	1027	1.55	1059	1.65	1091	1.77	1121	1.88	1151	2.00	1179	2.11	1207	2.23	1234	2.34	1261	2.46	1289	2.58	
3000	1065	1.83	1095	1.94	1125	2.05	1154	2.17	1183	2.30	1211	2.42	1238	2.54	1264	2.67	1292	2.80	1317	2.93	
3300	1104	2.15	1134	2.27	1163	2.40	1191	2.52	1217	2.64	1245	2.77	1272	2.90	1297	3.03	1324	3.17	1349	3.31	
3600	1144	2.52	1173	2.65	1202	2.78	1229	2.91	1256	3.05	1282	3.18	1308	3.32	1332	3.45	—	—	—	—	
3-HP Oversized Motor & Field Supplied High Static Drive⁽ⁱⁱⁱ⁾																					

For Standard Evaporator Fan Speed (RPM), reference Table 23.

Notes: Data includes pressure drop due to standard filters and wet coils. No accessories or options are included in pressure drop data.

Refer to Table 27 to determine additional static pressure drop due to other options/accessories. 1-HP Fan Motor Heat (MBH) = 2.829 x Fan BHP+.4024. 3-HP Fan Motor Heat (MBH) = 2.90 x Fan BHP+.500. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.

(i) Field Supplied Fan Sheave AK79 and Belt AX34 required.

(ii) Field Supplied Fan Sheave AK61.

(iii) Field Supplied Motor Sheave 1VL40 x 7/8", Fan Sheave AK46 and Belt AX28 required.

Table 20. Belt Drive Evaporator Fan Performance 7½ Tons WSC090,092A3,4,W 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	BHP
1-HP Standard Motor & Field Supplied Low Static Drive⁽ⁱ⁾											1-HP Standard Motor & Drive										
2400	647	0.51	686	0.58	737	0.66	787	0.76	831	0.85	870	0.93	908	1.02	944	1.12	980	1.23	1015	1.33	
2700	718	0.71	753	0.79	792	0.87	839	0.96	882	1.08	922	1.18	958	1.27	992	1.36	1026	1.47	1058	1.59	
3000	789	0.96	822	1.04	853	1.13	892	1.22	935	1.33	974	1.45	1011	1.58	1044	1.68	1076	1.78	1106	1.88	
3300	862	1.25	892	1.35	921	1.44	951	1.54	988	1.64	1026	1.76	1062	1.90	1096	2.04	1129	2.16	1158	2.27	
3600	934	1.61	963	1.71	990	1.81	1016	1.92	1045	2.02	1079	2.13	1115	2.27	1148	2.41	1180	2.57	1210	2.71	
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	BHP
1-HP Standard Motor & Drive											3-HP Oversized Motor & Drive										
2400	1051	1.44	1085	1.54	1118	1.64	1152	1.75	1185	1.86	1215	1.97	1247	2.09	1277	2.20	1305	2.32	1333	2.43	
2700	1090	1.70	1122	1.82	1153	1.94	1185	2.06	1216	2.18	1245	2.29	1274	2.40	1304	2.53	1333	2.65	1361	2.78	
3000	1136	2.00	1165	2.13	1194	2.26	1223	2.39	1251	2.52	1279	2.65	1308	2.78	1336	2.91	1363	3.04	1390	3.17	
3300	1187	2.39	1214	2.50	1242	2.63	1269	2.76	1296	2.90	1322	3.05	1347	3.19	1373	3.34	—	—	—	—	
3600	1239	2.84	1266	2.96	1291	3.08	1317	3.20	1343	3.34	—	—	—	—	—	—	—	—	—	—	
3-HP Oversized Motor & Field Supplied High Static Drive⁽ⁱⁱ⁾																					

For Standard Evaporator Fan Speed (RPM), reference Table 23.

Notes: Data includes pressure drop due to standard filters and wet coils. No accessories or options are included in pressure drop data.

Refer to Table 27 to determine additional static pressure drop due to other options/accessories.

1-HP Fan Motor Heat (MBH) = 2.829 x Fan BHP+.4024. 3-HP Fan Motor Heat (MBH) = 2.90 x Fan BHP+.500.

Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.

(i) Field Supplied Motor AK79 and Belt AX34 required.

(ii) Field Supplied Motor Sheave 1VL40 x 7/8", Fan Sheave AK46 and Belt AX28 required.



Performance Data

(10 Tons)

Table 21. Belt Drive Evaporator Fan Performance 10 Tons WSC120A3,4,W Downflow Airflow

CFM	External Static Pressure (Inches of Water)																					
	.10		.20		.30		.40		.50		.60		.70		.80		.90		1.00			
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP		
2-HP Standard Motor & Field Supplied Low Static Drive⁽ⁱ⁾																						
3200	560	0.53	601	0.63	644	0.74	682	0.85	718	0.97	754	1.10	789	1.25	822	1.38	856	1.53	887	1.67		
3600	620	0.73	657	0.83	694	0.95	731	1.08	764	1.20	797	1.33	829	1.48	860	1.63	892	1.79	922	1.95		
4000	680	0.97	715	1.09	747	1.21	782	1.35	814	1.49	844	1.63	874	1.77	903	1.93	932	2.09	960	2.27		
4400	741	1.27	773	1.40	803	1.53	834	1.67	864	1.82	894	1.98	922	2.13	948	2.28	975	2.44	1001	2.62		
4800	803	1.62	833	1.76	861	1.90	887	2.04	916	2.20	—	—	972	2.55	997	2.71	1022	2.87	1046	3.04		
2-HP Standard Motor & Drive											5-HP Oversized Motor & Drive											

Continued

CFM	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			
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP		
2-HP Standard Motor & Drive																						
3200	917	1.82	945	1.97	973	2.14	999	2.30	1024	2.47	1048	2.65	1072	2.82	1095	3.00	1117	3.17	1140	3.36		
3600	951	2.11	979	2.27	1007	2.43	1033	2.60	1059	2.78	1082	2.95	1107	3.14	1130	3.33	1152	3.52	1173	3.71		
4000	988	2.44	1015	2.62	1042	2.79	1068	2.97	1093	3.15	1117	3.33	1142	3.52	1164	3.70	1187	3.91	1209	4.11		
4400	1028	2.81	1053	3.00	1078	3.19	1103	3.38	1128	3.57	1152	3.77	1176	3.96	1198	4.15	1221	4.36	1243	4.56		
4800	1071	3.23	1095	3.42	1119	3.62	1142	3.83	1166	4.04	1189	4.25	1212	4.46	1233	4.66	1256	4.88	1277	5.09		
2-HP Standard Motor & Drive											5-HP Oversized Motor & Drive											

For Standard Evaporator Fan Speed (RPM), reference [Table 23](#).
 Notes: Data includes pressure drop due to standard filters and wet coils. No accessories or options are included in pressure drop data. Refer to [Table 27](#) to determine additional static pressure drop due to other options/accessories.
 2-HP Fan Motor Heat (MBH) = 2.00 x Fan BHP+.500. 5-HP Fan Motor Heat (MBH) = 2.950 x Fan BHP+.470.
 Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.

⁽ⁱ⁾ Field Supplied Motor Sheave 1VP34 x 7/8", Fan Sheave AK69 and Belt AX35 required.

Table 22. Belt Drive Evaporator Fan Performance 10 Tons WSC120A3,4,W Horizontal Airflow

CFM	External Static Pressure (Inches of Water)																					
	.10		.20		.30		.40		.50		.60		.70		.80		.90		1.00			
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP		
2-HP Standard Motor & Field Supplied Low Static Drive⁽ⁱ⁾											2-HP Standard Motor & Drive											
3200	656	0.81	691	0.89	730	1.00	771	1.13	807	1.26	844	1.39	886	1.55	926	1.72	965	1.89	1000	2.06		
3600	729	1.13	761	1.22	792	1.32	829	1.45	865	1.60	898	1.74	930	1.89	965	2.06	1002	2.24	1038	2.43		
4000	802	1.52	833	1.63	860	1.73	890	1.86	923	2.01	956	2.17	986	2.30	1015	2.48	1044	2.65	1077	2.85		
4400	876	1.99	905	2.12	931	2.24	955	2.35	983	2.49	1014	2.66	1045	2.84	1072	3.01	1098	3.18	1125	3.36		
4800	950	2.56	977	2.70	1002	2.84	1025	2.96	1048	3.08	1074	3.24	1102	3.43	1131	3.63	1156	3.81	1181	4.00		
2-HP Standard Motor & Drive											5-HP Oversized Motor & Drive											

Continued

CFM	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			
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP		
5-HP Oversized Motor & Drive																						
3200	1029	2.20	1057	2.35	1084	2.49	1108	2.63	1132	2.77	1155	2.91	1177	3.05	1198	3.18	1219	3.32	1239	3.46		
3600	1072	2.62	1106	2.81	1134	2.98	1160	3.15	1185	3.31	1209	3.47	1231	3.63	1252	3.78	1274	3.94	1295	4.10		
4000	1111	3.05	1143	3.26	1174	3.47	1204	3.68	1232	3.88	1260	4.09	1283	4.27	1306	4.46	1327	4.63	1349	4.81		
4400	1152	3.55	1182	3.76	1211	3.99	1241	4.21	1270	4.44	1299	4.68	1327	4.91	1352	5.14	1377	5.37	1400	5.57		
4800	1205	4.19	1229	4.39	1253	4.58	1280	4.81	1309	5.06	1336	5.31	1363	5.56	—	—	—	—	—	—		
5-HP Oversized Motor & Drive											5-HP Oversized Motor & Field Supplied Sheave⁽ⁱⁱ⁾											

For Standard Evaporator Fan Speed (RPM), reference [Table 23](#).
 Notes: Data includes pressure drop due to standard filters and wet coils. No accessories or options are included in pressure drop data. Refer to [Table 27](#) to determine additional static pressure drop due to other options/accessories.
 2-HP Fan Motor Heat (MBH) = 3.00 x Fan BHP+.500. 5-HP Fan Motor Heat (MBH) = 2.950 x Fan BHP+.470.
 Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.

⁽ⁱ⁾ Field Supplied Motor Sheave 1VP34 x 7/8", Fan Sheave AK69 and Belt AX35 required.

⁽ⁱⁱ⁾ Field supplied Fan Sheave BK95 required.



Performance Data

Table 23. Standard Motor & 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
3	WSC036A	N/A	745	819	894	968	1043	1117
4	WSC048A	N/A	833	916	1000	1083	1167	1250
5	WSC060A	N/A	897	987	1077	1166	1256	1346
6	WSC072A	N/A	723	779	835	890	946	1002
7½	WSC090A	N/A	787	847	908	968	1029	1089
10	WSC120A	N/A	723	779	835	890	946	1002

Factory set at 3 turns open.

Table 24. Standard Motor & High Static Drive Accessory 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
6	WSC072A	N/A	831	895	959	1022	1086	1150

Factory set at 3 turns open.

Table 25. Oversized Motor & 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
6	WSC072A	N/A	958	1022	1086	1150	1214	1278
7½	WSC090A	N/A	958	1022	1086	1150	1214	1278
10	WSC120A	947	1015	1082	1150	1217	1285	N/A

Factory set at 3 turns open.

Table 26. Outdoor Sound Power Level - dB (ref. 10 - 12 Watts)

Tons	Unit Model Number	Octave Center Frequency								Overall dBA
		63	125	250	500	1000	2000	4000	8000	
3	WSC036A	85	82	80	79	77	73	69	68	82
4,5	WSC048,060A	95	88	84	83	80	77	74	70	85
6	WSC072A	92	95	91	88	84	80	75	68	90
7½	WSC090A	91	95	91	88	84	79	75	68	90
10	WSC120A	94	89	87	85	84	78	75	69	88

Tests follow ARI270-95.



Performance Data

Table 27. Static Pressure Drop Through Accessories (Inches Water Column) —3-10 Tons

Tons	Unit Model Number	CFM	Standard Filters ⁽ⁱⁱⁱ⁾	2" Pleated Filter	Economizer with OA/RA Dampers ⁽ⁱ⁾				Electric Heater Accessory (kW) ⁽ⁱⁱ⁾			
					100% OA	100% RA	100% OA	100% RA	5-6	9-15	17-36	54
					Downflow		Horizontal					
3	WSC036A	960	0.04	0.06	0.05	0.01	0.05	0.00	.013	.016	.019	—
		1200	0.06	0.09	0.07	0.02	0.07	0.01	.020	.025	.030	—
		1440	0.08	0.12	0.10	0.03	0.10	0.01	.029	.036	.043	—
4	WSC048A	1280	0.04	0.06	0.08	0.03	0.08	0.01	.023	.029	.034	—
		1600	0.05	0.09	0.12	0.04	0.12	0.01	.036	.045	.053	—
		1920	0.08	0.12	0.17	0.06	0.17	0.02	.052	.064	.077	—
5	WSC060A	1600	0.05	0.09	0.12	0.04	0.12	0.01	.036	.045	.053	—
		2000	0.09	0.13	0.18	0.07	0.18	0.02	.056	.070	.083	—
		2400	0.12	0.18	0.26	0.10	0.26	0.04	.081	.100	.120	—
6	WSC072A	1920	0.04	0.07	0.10	0.01	0.06	0.02	0.02	0.011	0.021	—
		2400	0.06	0.09	0.11	0.02	0.08	0.02	0.02	0.020	0.034	—
		2880	0.09	0.12	0.13	0.04	0.10	0.04	0.04	0.033	0.052	—
7½	WSC090A	2400	0.06	0.09	0.11	0.02	0.08	0.02	0.02	0.020	0.034	—
		3000	0.10	0.13	0.14	0.05	0.12	0.05	0.05	0.042	0.063	—
		3600	0.14	0.18	0.21	0.07	0.25	0.08	0.08	0.077	0.102	—
10	WSC120A	3200	0.07	0.10	0.17	0.05	0.14	0.05	0.05	0.028	0.036	0.042
		4000	0.11	0.15	0.26	0.07	0.30	0.08	0.08	0.045	0.056	0.070
		4800	0.16	0.20	0.34	0.09	0.35	0.10	0.10	0.065	0.081	0.106

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

⁽ⁱⁱ⁾ Nominal kW ratings at 240, 480, 600 volts. Heaters only available of T_C units.

⁽ⁱⁱⁱ⁾ Tested with standard filters (3-5 tons 1" filters, 6-10 tons 2" filters). Difference in pressure drop should be considered when utilizing optional 2" pleated filters.

Table 28. Auxiliary Electric Heat Capacity

Tons	Unit Model Number	Total ⁽ⁱ⁾			Stage1		Stage 2	
		kW Input ⁽ⁱⁱ⁾	MBH Output	No. of Stages	kW Input	MBH Output	kW Input	MBH Output
3	WSC036A3, A4	6.00	20.48	1	6.00	20.48	—	—
		12.00	40.97	2	6.00	20.48	6.00	20.48
		17.40	59.40	2	8.70	29.70	8.70	29.70
4	WSC048A3, A4, AW	6.00	20.48	1	6.00	20.48	—	—
		12.00	40.97	2	6.00	20.48	6.00	20.48
		17.40	59.40	2	8.70	29.70	8.70	29.70
5	WSC060A3, A4, AW	6.00	20.48	1	6.00	20.48	—	—
		12.00	40.97	2	6.00	20.48	6.00	20.48
		17.40	59.40	2	8.70	29.70	8.70	29.70
		23.00	78.52	2	14.30	48.82	8.70	29.70
6	WSC072A3, A4, AW	9.00	30.73	1	9.00	30.73	—	—
		18.00	61.45	1	18.00	61.45	—	—
		27.00	92.18	2	18.00	61.45	9.00	30.73
		36.00	122.90	2	18.00	61.45	18.00	61.45
7½	WSC090A3, A4, AW	9.00	30.73	1	9.00	30.73	—	—
		18.00	61.45	1	18.00	61.45	—	—
		27.00	92.18	2	18.00	61.45	9.00	30.73
		36.00	122.90	2	18.00	61.45	18.00	61.45
10	WSC120A3, A4, AW	8.00	61.45	1	18.00	61.45	—	—
		27.00	92.18	2	18.00	61.45	9.00	30.73
		36.00	122.90	2	18.00	61.45	18.00	61.45
		54.00	184.36	2	36.00	122.90	18.00	61.45

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

⁽ⁱⁱ⁾ does not include indoor fan power or heat.



Performance Data

Table 29. Electric Heater Voltage Correction Factors (Applicable to Auxiliary Heat Capacity)

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

Table 30. 3-5 Tons Air Temperature Rise Across Electric Heaters (Degrees F)

kW	Stages	3 Tons	4 Tons	5 Tons
		1200 CFM ⁽ⁱ⁾	1600 CFM ⁽ⁱⁱ⁾	2000 CFM ⁽ⁱⁱⁱ⁾
		Three Phase	Three Phase	Three Phase
		WSC036A3,A4,AW	WSC048A3,A4,AW	WSC060A3,A4,AW
6.00	1	15.8	11.9	9.5
12.00	2	31.6	23.7	19.0
17.40	2	45.8	34.4	27.5
23.00	2	—	—	36.4

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 = kWx3414/1.08xCFM.

- (i) The minimum allowable airflow for a 3 ton with a 17.4 kW heater is 1020 CFM.
(ii) The minimum allowable airflow for a 4 ton with a 17.4 or 17.6 kW heater is 1440 CFM.
(iii) The minimum allowable airflow for a 5 ton with a 23.0 kW heater is 1900 CFM.

Table 31. 6-10 Tons Air Temperature Rise Across Electric Heaters (Degrees F)

kW	Stages	6 Tons	7½ Tons	10 Tons
		2000 CFM	3000 CFM	4000 CFM
		WSC072A3, A4, AW	WSC092A3, A4, AW	WSC120A3,A4,AW
9.00	1	14.2	9.5	—
18.00	1	28.5	19.0	14.2
27.00	2	42.7	28.5	21.3
36.00	2	56.9 ⁽ⁱ⁾	37.9	28.5
54.00	2	—	—	42.7

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 = kWx3414/1.08xCFM.

- (i) Minimum allowable airflow for a 6 ton with a 36.0 kW heater is 2450 cfm.

Table 32. Electric Heater Temperature Rise Correction Factors

% Variation From Nominal CFM	- 20	- 15	- 10	- 5	0	+5	+10	+15	+20
Temperature Rise Multiplier	1.25	1.17	1.11	1.05	1.00	0.95	0.91	0.87	0.83



Performance Data

Table 33. 3 Tons Three Phase Heating Capacities (Net) WSC036A3,4,W at 1200 CFM

Outdoor Temp. F.	Instantaneous Heating Capacity (Btuh/1000) at Indicated Indoor Dry Bulb Temp				Integrated Heating Capacity (Btuh/1000) at Indicated Indoor Dry Bulb Temp ⁽ⁱ⁾				Total Power Kilowatts at Indicated Indoor Dry Bulb Temp			
	60	70	75	80	60	70	75	80	60	70	75	80
-8	9.6	8.6	8.1	7.5	8.6	7.7	7.3	6.8	2.14	2.21	2.23	2.25
-3	11.7	10.7	10.1	9.5	10.5	9.6	9.1	8.6	2.25	2.32	2.35	2.38
2	13.9	12.8	12.3	11.6	12.5	11.5	11.1	10.4	2.36	2.44	2.47	2.50
7	16.3	15.1	14.5	13.9	14.7	13.6	13.1	12.5	2.46	2.54	2.58	2.62
12	18.6	17.4	16.8	16.1	16.7	15.7	15.1	14.5	2.55	2.65	2.69	2.73
17	20.9	19.8	19.2	18.5	18.8	17.8	17.3	16.7	2.64	2.75	2.80	2.85
22	23.4	22.1	21.5	20.8	21.1	19.9	19.4	18.7	2.73	2.85	2.90	2.95
27	26.0	24.6	23.9	23.2	23.4	22.1	21.5	20.9	2.82	2.95	3.00	3.06
32	28.6	27.2	26.4	25.7	25.7	24.5	23.8	23.1	2.91	3.04	3.11	3.17
37	31.2	29.7	28.9	28.2	28.1	26.7	26.0	25.4	3.00	3.14	3.21	3.28
42	33.9	32.2	31.4	30.6	30.5	29.0	28.3	27.5	3.09	3.24	3.32	3.39
47	36.5	34.8	34.0	33.1	36.5	34.8	34.0	33.1	3.18	3.34	3.42	3.50
52	39.2	37.4	36.5	35.6	39.2	37.4	36.5	35.6	3.28	3.45	3.53	3.62
57	41.8	38.7	37.8	36.8	41.8	38.7	37.8	36.8	3.37	3.53	3.63	3.72
62	43.2	41.3	40.3	39.3	43.2	41.3	40.3	39.3	3.44	3.65	3.75	3.85
67	45.8	43.9	42.9	41.8	45.8	43.9	42.9	41.8	3.55	3.76	3.87	3.98
72	48.5	46.4	45.4	44.3	48.5	46.4	45.4	44.3	3.65	3.88	4.00	4.11

For other airflow conditions, see heating capacity correction factor [Table 29](#).

Net heating capacity and power input includes indoor fan heat at ARI esp. To obtain net heating at other conditions, subtract fan heat at this condition and add fan heat at new condition.

⁽ⁱ⁾ 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.

Table 34. 4 Tons Three Phase Heating Capacities (Net) WSC048A3,4,W at 1600 CFM

Outdoor Temp. F.	Instantaneous Heating Capacity (Btuh/1000) at Indicated Indoor Dry Bulb Temp				Integrated Heating Capacity (Btuh/1000) at Indicated Indoor Dry Bulb Temp ⁽ⁱ⁾				Total Power Kilowatts at Indicated Indoor Dry Bulb Temp			
	60	70	75	80	60	70	75	80	60	70	75	80
-8	17.4	17.0	16.8	16.6	15.7	15.3	15.1	14.9	3.61	3.99	4.22	4.48
-3	19.5	19.1	18.8	18.6	17.6	17.2	16.9	16.7	3.57	3.96	4.20	4.48
2	21.9	21.3	21.2	21.1	19.7	19.2	19.1	19.0	3.65	4.02	4.24	4.50
7	24.3	23.7	23.5	23.4	21.9	21.3	21.2	21.1	3.69	4.05	4.27	4.52
12	27.0	26.3	26.1	25.9	24.3	23.7	23.5	23.3	3.73	4.09	4.31	4.54
17	29.7	28.9	28.7	28.5	26.7	26.0	25.8	25.7	3.78	4.14	4.35	4.58
22	32.5	31.7	31.4	31.1	29.3	28.5	28.3	28.0	3.83	4.19	4.40	4.62
27	35.5	34.6	34.3	33.9	32.0	31.1	30.9	30.5	3.89	4.24	4.45	4.67
32	38.6	37.7	37.3	36.9	34.7	33.9	33.6	33.2	3.95	4.30	4.51	4.72
37	41.7	40.7	40.2	39.8	37.5	36.6	36.2	35.8	4.01	4.37	4.57	4.78
42	44.8	43.7	43.2	42.7	40.3	39.3	38.9	38.4	4.08	4.44	4.64	4.85
47	48.0	46.8	46.3	45.7	48.0	46.8	46.3	45.7	4.16	4.52	4.72	4.93
52	51.2	49.9	49.3	48.7	51.2	49.9	49.3	48.7	4.25	4.61	4.81	5.01
57	54.4	53.0	52.3	51.7	54.4	53.0	52.3	51.7	4.35	4.71	4.90	5.10
62	57.6	56.0	55.3	54.5	57.6	56.0	55.3	54.5	4.45	4.81	5.00	5.20
67	57.4	55.7	54.8	53.9	57.4	55.7	54.8	53.9	4.45	4.79	4.97	5.16
72	60.7	58.8	57.9	57.0	60.7	58.8	57.9	57.0	4.58	4.93	5.11	5.30

For other airflow conditions, see heating capacity correction factor [Table 29](#).

Net heating capacity and power input includes indoor fan heat at ARI esp. To obtain net heating at other conditions, subtract fan heat at this condition and add fan heat at new condition.

⁽ⁱ⁾ 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.



Performance Data

(5, 6 Tons)

Table 35. 5 Tons Three Phase Heating Capacities (Net) WSC060A3,4,W at 2000 CFM

Outdoor Temp.	Instantaneous Heating Capacity (Btuh/1000) at Indicated Indoor Dry Bulb Temp				Integrated Heating Capacity (Btuh/1000) at Indicated Indoor Dry Bulb Temp ⁽ⁱ⁾				Total Power Kilowatts at Indicated Indoor Dry Bulb Temp			
	F.	60	70	75	80	60	70	75	80	60	70	75
-8	21.1	20.1	19.7	19.4	19.0	18.1	17.7	17.5	4.30	4.69	4.90	5.11
-3	24.0	23.0	22.6	22.3	21.6	20.7	20.3	20.1	4.39	4.78	4.98	5.19
2	27.0	26.0	25.8	25.6	24.3	23.4	23.2	23.0	4.48	4.86	5.06	5.27
7	30.3	29.4	29.0	28.8	27.3	26.5	26.1	25.9	4.57	4.94	5.15	5.35
12	33.8	32.8	32.4	32.0	30.4	29.5	29.2	28.8	4.65	5.03	5.23	5.45
17	37.4	36.3	35.8	35.4	33.7	32.7	32.2	31.9	4.74	5.12	5.32	5.54
22	41.1	39.8	39.3	38.9	37.0	35.8	35.4	35.0	4.83	5.21	5.42	5.64
27	44.9	43.5	42.9	42.5	40.4	39.2	38.6	38.3	4.92	5.31	5.52	5.75
32	48.7	47.3	46.7	46.2	43.8	42.6	42.0	41.6	5.02	5.41	5.63	5.86
37	52.5	51.0	50.4	49.8	47.3	45.9	45.4	44.8	5.12	5.52	5.74	5.97
42	56.4	54.8	54.2	53.6	50.8	49.3	48.8	48.2	5.23	5.63	5.86	6.09
47	60.3	58.8	58.1	57.4	60.3	58.8	58.1	57.4	5.34	5.75	5.98	6.22
52	64.4	62.8	62.0	61.3	64.4	62.8	62.0	61.3	5.46	5.88	6.11	6.35
57	68.4	63.6	66.0	61.9	68.4	63.6	66.0	61.9	5.59	5.90	6.25	6.35
62	69.4	67.6	66.7	65.7	69.4	67.6	66.7	65.7	5.64	6.05	6.28	6.51
67	73.5	71.6	70.6	69.6	73.5	71.6	70.6	69.6	5.79	6.21	6.44	6.68
72	77.7	75.7	74.6	73.5	77.7	75.7	74.6	73.5	5.95	6.38	6.61	6.85

For other airflow conditions, see heating capacity correction factor [Table 29](#).

Net heating capacity and power input includes indoor fan heat at ARI esp. To obtain net heating at other conditions, subtract fan heat at this condition and add fan heat at new condition.

⁽ⁱ⁾ 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.

Table 36. 6 Tons Heating Capacities (Net) WSC072A at 2400 CFM Downflow Configuration

Outdoor Temp.	Integrated Heating Capacity (Btuh/1000) at Indicated Indoor Dry Bulb Temp ⁽ⁱ⁾				Total Power in Kilowatts at Indicated Indoor Dry Bulb Temp			
	F.	60	70	75	80	60	70	75
-8	23.9	23.4	23.2	23.0	4.40	4.75	4.95	5.17
-3	26.4	26.0	25.8	25.6	4.45	4.81	5.01	5.24
2	29.3	28.8	28.6	28.4	4.52	4.88	5.09	5.31
7	32.3	31.8	31.6	31.4	4.59	4.95	5.17	5.40
12	35.6	35.1	34.8	34.5	4.66	5.04	5.25	5.49
17	39.1	38.5	38.2	37.9	4.74	5.12	5.34	5.58
22	42.8	42.1	41.8	41.4	4.83	5.22	5.44	5.68
27	46.5	45.7	45.5	45.1	4.93	5.32	5.54	5.79
32	50.5	49.7	49.2	48.8	5.02	5.43	5.66	5.91
37	54.7	53.7	53.2	52.7	5.13	5.54	5.77	6.03
42	59.0	57.8	57.3	56.7	5.23	5.65	5.89	6.15
47	70.0	68.6	67.9	67.2	5.56	6.01	6.27	6.55
52	75.1	73.5	72.7	72.0	5.69	6.15	6.41	6.70
57	80.3	78.5	77.6	76.8	5.82	6.29	6.55	6.84
62	85.6	83.6	82.6	81.7	5.96	6.43	6.70	7.00
67	91.0	88.8	87.7	86.6	6.10	6.58	6.86	7.15
72	96.8	94.3	93.1	91.8	6.26	6.75	7.03	7.33

For other airflow conditions, see heating capacity correction factor [Table 29](#).

Net heating capacity and power input includes indoor fan heat at ARI esp. To obtain net heating at other conditions, subtract fan heat at this condition and add fan heat at new condition.

⁽ⁱ⁾ 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.



Performance Data

(6, 7½ Tons)

Table 37. 6 Tons Heating Capacities (Net) WSC072A at 2400 CFM Horizontal Configuration

Outdoor Temp.	Integrated Heating Capacity (Btuh/1000) at Indicated Indoor Dry Bulb Temp ⁽ⁱ⁾				Total Power in Kilowatts at Indicated Indoor Dry Bulb Temp			
	F.	60	70	75	80	60	70	75
-8	24.2	23.7	23.5	23.3	4.48	4.83	5.03	5.25
-3	26.7	26.2	26.0	25.8	4.54	4.89	5.09	5.32
2	29.5	29.1	28.8	28.6	4.60	4.96	5.17	5.39
7	32.6	32.1	31.9	31.6	4.67	5.03	5.25	5.47
12	35.9	35.3	35.1	34.8	4.74	5.12	5.33	5.56
17	39.4	38.8	38.5	38.2	4.82	5.20	5.42	5.66
22	43.1	42.4	42.0	41.7	4.91	5.30	5.52	5.76
27	46.8	46.0	45.8	45.4	5.01	5.40	5.62	5.87
32	50.8	49.9	49.5	49.1	5.11	5.51	5.74	5.99
37	55.0	54.0	53.5	53.0	5.21	5.62	5.85	6.11
42	59.2	58.1	57.5	57.0	5.31	5.73	5.97	6.23
47	70.3	68.9	68.2	67.5	5.64	6.09	6.35	6.63
52	75.4	73.8	73.0	72.2	5.77	6.23	6.49	6.77
57	80.6	78.8	77.9	77.1	5.90	6.36	6.63	6.92
62	85.9	83.9	82.9	81.9	6.04	6.51	6.78	7.07
67	91.3	89.0	88.0	86.9	6.18	6.66	6.93	7.23
72	97.1	94.5	93.3	92.1	6.34	6.83	7.11	7.40

For other airflow conditions, see heating capacity correction factor [Table 29](#).

Net heating capacity and power input includes indoor fan heat at ARI esp. To obtain net heating at other conditions, subtract fan heat at this condition and add fan heat at new condition.

⁽ⁱ⁾ 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.

Table 38. 7½ Tons Heating Capacities (Net) WSC090A at 3000 CFM Downflow Configuration

Outdoor Temp.	Integrated Heating Capacity (Btuh/1000) at Indicated Indoor Dry Bulb Temp ⁽ⁱ⁾				Total Power in Kilowatts at Indicated Indoor Dry Bulb Temp			
	F.	60	70	75	80	60	70	75
-8	33.3	31.8	31.2	30.9	6.9	7.2	7.4	7.7
-3	36.3	35.0	34.5	34.2	6.9	7.2	7.4	7.7
2	39.7	38.4	38.0	37.7	6.9	7.2	7.5	7.8
7	43.2	42.2	41.7	41.4	6.9	7.3	7.6	7.9
12	47.0	45.9	45.5	45.2	6.9	7.4	7.6	7.9
17	51.1	50.1	49.7	49.3	7.0	7.4	7.7	8.0
22	55.4	54.4	54.0	53.6	7.0	7.5	7.8	8.1
27	60.2	59.1	58.6	58.2	7.1	7.6	7.9	8.3
32	65.3	64.1	63.6	63.1	7.2	7.7	8.0	8.4
37	70.4	69.1	68.5	68.0	7.3	7.8	8.2	8.5
42	75.6	74.3	73.6	73.0	7.4	8.0	8.3	8.7
47	90.2	88.6	87.8	87.0	7.5	8.1	8.5	8.8
52	96.7	94.9	94.0	93.2	7.6	8.2	8.6	9.0
57	103.4	101.4	100.5	99.5	7.8	8.4	8.8	9.2
62	110.2	108.1	107.0	106.0	7.9	8.6	9.0	9.4
67	117.2	114.8	113.6	112.5	8.1	8.8	9.2	9.6
72	124.3	121.7	120.5	119.1	8.3	9.0	9.4	9.8

For other airflow conditions, see heating capacity correction factor [Table 29](#).

Net heating capacity and power input includes indoor fan heat at ARI esp. To obtain net heating at other conditions, subtract fan heat at this condition and add fan heat at new condition.

⁽ⁱ⁾ 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.



Performance Data

(7½, 10 Tons)

Table 39. 7½ Tons Heating Capacities (Net) WSC090A at 3000 CFM Horizontal Configuration

Outdoor Temp.	Integrated Heating Capacity (Btuh/1000) at Indicated Indoor Dry Bulb Temp ⁽ⁱ⁾				Total Power in Kilowatts at Indicated Indoor Dry Bulb Temp			
	60	70	75	80	60	70	75	80
F.								
-8	33.7	32.2	31.7	31.3	7.0	7.3	7.5	7.7
-3	36.8	35.4	34.9	34.6	7.0	7.3	7.5	7.8
2	40.1	38.8	38.4	38.1	7.0	7.3	7.6	7.8
7	43.6	42.5	42.1	41.8	7.0	7.4	7.6	7.9
12	47.4	46.3	45.9	45.6	7.0	7.4	7.7	8.0
17	51.4	50.4	50.0	49.7	7.1	7.5	7.8	8.1
22	55.8	54.7	54.3	53.9	7.1	7.6	7.9	8.2
27	60.5	59.4	58.9	58.4	7.2	7.7	8.0	8.3
32	65.5	64.4	63.8	63.3	7.3	7.8	8.1	8.4
37	70.6	69.4	68.8	68.2	7.3	7.9	8.2	8.6
42	75.8	74.5	73.8	73.2	7.4	8.0	8.4	8.7
47	90.4	88.8	88.0	87.2	7.6	8.2	8.5	8.9
52	96.9	95.1	94.2	93.3	7.7	8.3	8.7	9.1
57	103.5	101.5	100.6	99.6	7.8	8.5	8.8	9.2
62	110.3	108.1	107.1	106.0	8.0	8.6	9.0	9.4
67	117.2	114.9	113.7	112.5	8.2	8.8	9.2	9.6
72	124.3	121.7	120.5	119.2	8.3	9.0	9.4	9.8

For other airflow conditions, see heating capacity correction factor [Table 29](#).

Net heating capacity and power input includes indoor fan heat at ARI esp. To obtain net heating at other conditions, subtract fan heat at this condition and add fan heat at new condition.

⁽ⁱ⁾ 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.

Table 40. 10 Tons Heating Capacities (Net) WSC120A at 4000 CFM Downflow Configuration

Outdoor Temp.	Integrated Heating Capacity (Btuh/1000) at Indicated Indoor Dry Bulb Temp ⁽ⁱ⁾				Total Power in Kilowatts at Indicated Indoor Dry Bulb Temp			
	60	70	75	80	60	70	75	80
F.								
-8	39.6	39.4	39.4	39.5	7.15	7.76	8.11	8.49
-3	43.3	43.0	43.0	43.0	7.22	7.83	8.18	8.56
2	47.3	47.0	46.9	46.9	7.30	7.91	8.26	8.64
7	51.7	51.3	51.2	51.1	7.39	8.00	8.35	8.72
12	56.4	55.8	55.7	55.5	7.48	8.09	8.44	8.82
17	61.3	60.7	60.4	60.3	7.56	8.17	8.53	8.91
22	66.6	65.8	65.5	65.2	7.65	8.27	8.62	9.01
27	72.2	71.3	70.9	70.5	7.74	8.36	8.72	9.11
32	78.1	77.0	76.5	76.1	7.83	8.46	8.82	9.21
37	83.1	82.9	82.3	81.8	7.89	8.56	8.93	9.32
42	90.5	89.0	88.3	87.7	8.02	8.67	9.04	9.44
47	111.7	109.8	108.9	108.0	8.93	9.68	10.11	10.57
52	119.8	117.6	116.5	115.5	9.05	9.82	10.25	10.72
57	128.1	125.6	124.4	123.3	9.18	9.96	10.40	10.88
62	136.7	133.8	132.5	131.2	9.32	10.11	10.56	11.05
67	145.3	142.1	141.0	139.5	9.46	10.27	10.75	11.24
72	155.2	151.6	149.9	148.3	9.66	10.48	10.95	11.45

For other airflow conditions, see heating capacity correction factor [Table 29](#).

Net heating capacity and power input includes indoor fan heat at ARI esp. To obtain net heating at other conditions, subtract fan heat at this condition and add fan heat at new condition.

⁽ⁱ⁾ 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.



Performance Data

(10 Tons)

Table 41. 10 Tons Heating Capacities (Net) WSC120A at 4000 CFM Horizontal Configuration

Outdoor Temp.	Integrated Heating Capacity (Btuh/1000) at Indicated Indoor Dry Bulb Temp ⁽¹⁾				Total Power in Kilowatts at Indicated Indoor Dry Bulb Temp			
	F.	60	70	75	80	60	70	75
-8	40.0	39.7	39.7	39.8	7.24	7.85	8.20	8.58
-3	43.6	43.3	43.3	43.3	7.32	7.93	8.27	8.65
2	47.7	47.3	47.2	47.2	7.40	8.00	8.35	8.73
7	52.1	51.6	51.5	51.4	7.49	8.09	8.44	8.81
12	56.7	56.2	56.0	55.8	7.57	8.18	8.53	8.90
17	61.7	61.0	60.8	60.6	7.66	8.26	8.62	9.00
22	66.9	66.1	65.8	65.5	7.74	8.36	8.71	9.09
27	72.5	71.6	71.2	70.8	7.83	8.45	8.81	9.19
32	78.5	77.3	76.8	76.4	7.92	8.55	8.91	9.30
37	83.4	83.2	82.6	82.1	7.98	8.65	9.01	9.41
42	90.8	89.3	88.6	88.0	8.11	8.75	9.12	9.52
47	112.0	110.1	109.2	108.3	9.01	9.76	10.19	10.65
52	120.1	117.8	116.8	115.8	9.14	9.90	10.33	10.80
57	128.4	125.9	124.6	123.5	9.27	10.04	10.48	10.96
62	137.0	134.1	132.7	131.5	9.40	10.19	10.64	11.12
67	145.6	142.3	141.2	139.8	9.55	10.35	10.82	11.31
72	155.4	151.8	150.2	148.5	9.74	10.56	11.03	11.52

For other airflow conditions, see heating capacity correction factor [Table 29](#).

Net heating capacity and power input includes indoor fan heat at ARI esp. To obtain net heating at other conditions, subtract fan heat at this condition and add fan heat at new condition.

⁽¹⁾ 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.

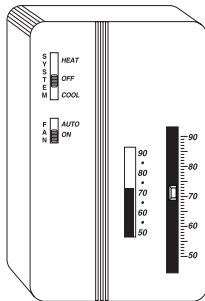
Controls

ReliaTel™ Controlled Units

Zone Sensors are the building occupant's comfort control devices for Precedent™ units with the Micro control:

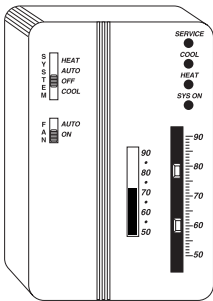
Manual Changeover

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



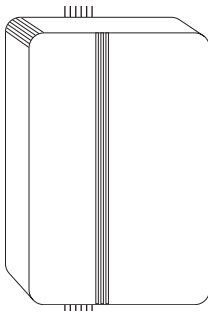
Manual/Automatic Changeover

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

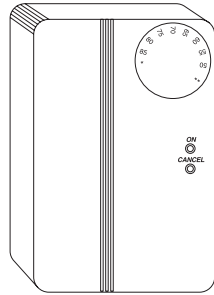


Remote Sensor

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



Integrated Comfort™ System



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

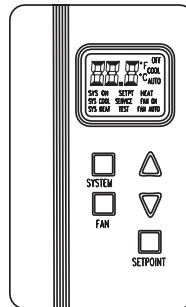
Comfort™ system.

Dual Thermistor Remote Zone Sensor

This sensor will allow the customer to reduce the total number of remote sensors to obtain space temperature averaging. This sensor should be utilized with ReliaTel controls.

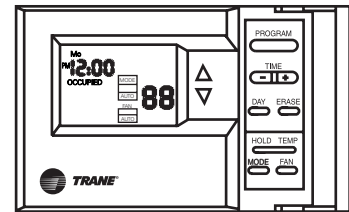
Digital Display Zone Sensor

The Digital LCD (Liquid Crystal Display) zone sensor has the look and functionality of standard zone sensors. This sensor includes a digital display of set point adjustment and space temperature in F (Fahrenheit) or C (Celsius). Includes FAN and SYSTEM buttons (supports the service functions of the standard sensor). E-squared memory stores last programmed set points. Requires 24 VAC (Volts AC). This sensor should be utilized with ReliaTel™ controls.



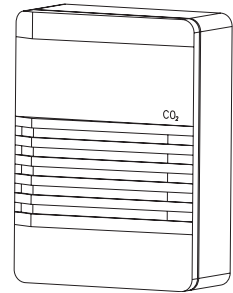
Programmable Night Setback

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 two (2) Override programs per day.



CO2 Sensing

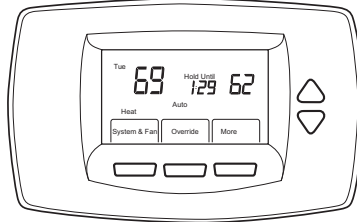
The CO₂ sensor shall have the ability to monitor space occupancy levels within the building by measuring the parts per million of CO₂ (Carbon Dioxide) in the air. As the CO₂ levels increase, the outside air damper modulates to meet the CO₂ space ventilation requirements. The CO₂ accessory shall be available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



Controls

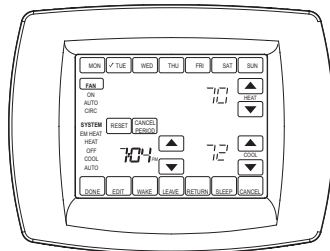
Digital Display Programmable Thermostat (2H/2C)

Two Heat/Two Cool digital display thermostat. 7-day programmable stat with night setback shall be available.



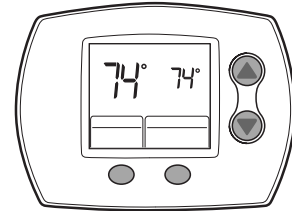
Touchscreen Programmable Thermostat (2H/2C)

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 Thermostat (3H/2C)

Three Heat, Two Cool digital display thermostat. Easy access battery replacement. Flip-out door for easy battery replacement without removing or disassembling the thermostat.



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.



Electrical Data

Table 42. Unit Wiring

Tons	Unit Model Number	Unit Operating Voltage Range ⁽ⁱⁱ⁾	Standard Indoor Fan Motor		Oversize Indoor Fan Motor		Optional Belt Drive Indoor Fan Motor ⁽ⁱ⁾	
			Minimum Circuit Ampacity	Maximum Fuse Size or Maximum Circuit Breaker ⁽ⁱⁱⁱ⁾	Minimum Circuit Ampacity	Maximum Fuse Size or Maximum Circuit Breaker	Minimum Circuit Ampacity	Maximum Fuse Size or Maximum Circuit Breaker
3	WSC036A3	187-253	19.1	30	21.5	30	21.8	30
	WSC036A4	414-506	9.9	15	11.1	15	11.3	15
	WSC036AW	517-633	8.3	15	8.9	15	8.9	15
4	WSC048A3	187-253	24.4	35	26.5	40	25.8	40
	WSC048A4	414-506	12.1	15	13.7	20	12.9	20
	WSC048AW	517-633	10.1	15	10.9	15	10.3	15
5	WSC060A3	187-253	32.6	50	34.3	50	31.4	50
	WSC060A4	414-506	16.6	25	16.9	25	16.2	25
	WSC060AW	517-633	13.1	20	13.7	20	12.7	20
6	WSC072A3	187-253	32.2	50	33.5	50	—	—
	WSC072A4	414-506	16.6	25	17.2	25	—	—
	WSC072AW	517-633	12.5	15	13.5	20	—	—
7½	WSC090A3	187-253	41.4	60	45.8	60	—	—
	WSC090A4	414-506	21.9	35	24.0	35	—	—
	WSC090AW	517-633	16.8	25	18.8	25	—	—
10	WSC120A3	187-253	50.4	60	57.5	70	—	—
	WSC120A4	414-506	26.4	35	29.9	35	—	—
	WSC120AW	517-633	21.0	25	23.9	30	—	—

⁽ⁱ⁾ For standard and oversized motors, HACR breaker per NEC.

⁽ⁱⁱ⁾ Heater kW ratings are at 208-240 volt for 208-230 volt units.

⁽ⁱⁱⁱ⁾ Optional Belt Drive motor applies to 3-5 ton models only. The Standard Motor for 6-10 ton models is Belt Drive.

Table 43. Unit Wiring with Electric Heat (Single Point Connection) – Three Phase

Tons	Unit Model Number	Heater Model Number	Heater kW Rating ⁽ⁱ⁾	Control Stages	Standard Indoor Motor		Oversize Indoor Motor	
					MCA	Max Fuse Size or Maximum Circuit Breaker ⁽ⁱⁱ⁾	MCA	Max Fuse Size or Maximum Circuit Breaker
208/230 Volts Three Phase								
3	WSC036A3	BAYHTRR306A	4.5/6.0	1	34.7/37.1	40/45	37.1/39.5	45/45
		BAYHTRR312A	9.0/12.0	2	50.3/55.2	60/60	52.7/57.6	60/60
		BAYHTRR318A	13.1/17.4	2	64.4/71.4	70/80	66.8/73.8	70/80
4	WSC048A3	BAYHTRR306A	4.5/6.0	1	40.0/42.4	50/50	42.1/44.5	50/50
		BAYHTRR312A	9.0/12.0	2	55.6/60.5	60/70	57.7/62.6	60/70
		BAYHTRR318A	13.1/17.4	2	69.7/76.7	70/80	71.8/78.8	80/80
5	WSC060A3	BAYHTRR306A	4.5/6.0	1	48.2/50.6	60/60	49.9/52.3	60/60
		BAYHTRR312A	9.0/12.0	2	63.8/68.7	70/80	65.5/70.4	70/80
		BAYHTRR318A	13.1/17.4	2	78.0/85.0	80/90	79.7/86.7	80/90
6	WSC072A3	BAYHTRR323A	17.3/23.0	2	92.6/101.7	100/110	94.3/103.4	100/110
		BAYHTRS309A	6.8/9.0	1	55.7/59.3	60/60	57.0/60.6	60/70
		BAYHTRS318A	13.5/18.0	1	79.0/86.3	80/90	80.3/87.6	90/90
7½	WSC090A3	BAYHTRS327A	20.3/27.0	2	102.5/113.4	110/125	103.8/114.7	110/125
		BAYHTRS336A	27.0/36.0	2	126.0/140.4	150/150	127.3/141.7	150/150
		BAYHTRS309A	6.8/9.0	1	64.9/68.5	80/90	69.3/72.9	90/90
7½	WSC090A3	BAYHTRS318A	13.5/18.0	1	88.3/95.5	100/100	92.7/99.9	100/100
		BAYHTRS327A	20.3/27.0	2	111.8/122.7	125/125	116.2/127.1	125/150
		BAYHTRS336A	27.0/36.0	2	135.8/149.7	150/150	139.7/154.1	150/175



Electrical Data

Table 43. (continued) Unit Wiring with Electric Heat (Single Point Connection) — Three Phase

10	WSC120A3	BAYHTRT318A	13.5/18.0	1	97.3/104.6	100/110	104.4/111.7	110/125
		BAYHTRT327A	20.3/27.0	2	120.8/131.7	125/150	127.9/138.8	150/150
		BAYHTRT336A	27.0/36.0	2	144.3/158.7	150/175	151.4/165.8	175/175
		BAYHTRT354A	40.6/54.0	2	191.2/180.3	200/200	198.3/187.4	200/200
460 Volts Three Phase								
3	WSC036A4	BAYHTRR406A	6.0	1	18.9	20	20.1	25
		BAYHTRR412A	12.0	2	27.9	30	29.1	30
		BAYHTRR418A	17.4	2	36.0	40	37.2	40
4	WSC048A4	BAYHTRR406A	6.0	1	21.0	25	22.7	25
		BAYHTRR412A	12.0	2	30.1	35	31.7	35
		BAYHTRR418A	17.4	2	38.3	40	39.9	40
5	WSC060A4	BAYHTRR406A	6.0	1	25.6	30	25.9	30
		BAYHTRR412A	12.0	2	34.6	40	34.9	40
		BAYHTRR418A	17.4	2	42.7	45	43.0	45
		BAYHTRR423A	23.0	2	51.2	60	51.5	60
6	WSC072A4	BAYHTRS409A	9.0	1	30.1	35	30.7	35
		BAYHTRS418A	18.0	1	43.8	45	44.4	45
		BAYHTRS427A	27.0	2	57.3	60	57.9	60
		BAYHTRS436A	36.0	2	70.8	80	71.4	80
7½	WSC090A4	BAYHTRS409A	9.0	1	35.4	45	37.5	45
		BAYHTRS418A	18.0	1	49.0	50	51.1	60
		BAYHTRS427A	27.0	2	62.5	70	64.6	70
		BAYHTRS436A	36.0	2	76.0	80	78.1	80
10	WSC120A4	BAYHTRT418A	18.0	1	53.5	60	57.0	60
		BAYHTRT427A	27.0	2	67.0	70	70.5	70
		BAYHTRT436A	36.0	2	80.5	90	84.0	90
		BAYHTRT454A	54.0	2	91.4	100	94.9	100
575 Volts Three Phase								
3	WSC036AW	BAYHTRRW06A	6.0	1	15.6	20	16.2	20
		BAYHTRRW12A	12.0	2	22.7	25	23.3	25
		BAYHTRRW18A	17.4	2	29.2	30	29.8	30
4	WSC048AW	BAYHTRRW06A	6.0	1	17.4	20	18.2	20
		BAYHTRRW12A	12.0	2	24.5	25	25.3	30
		BAYHTRRW18A	17.4	2	31.0	35	31.8	35
5	WSC060AW	BAYHTRRW06A	6.0	1	20.3	25	20.9	25
		BAYHTRRW12A	12.0	2	27.5	30	28.1	30
		BAYHTRRW18A	17.4	2	34.0	35	34.6	35
		BAYHTRRW23A	23.0	2	40.7	45	41.3	45
6	WSC072AW	BAYHTRSW09A	9.0	1	23.3	25	24.1	25
		BAYHTRSW18A	18.0	1	34.1	35	34.9	35
		BAYHTRSW27A	27.0	2	45.0	45	45.8	50
		BAYHTRSW36A	36.0	2	55.7	60	56.5	60
7½	WSC090AW	BAYHTRSW09A	9.0	1	27.7	35	29.7	35
		BAYHTRSW18A	18.0	1	38.5	45	40.5	45
		BAYHTRSW27A	27.0	2	49.3	50	51.3	60
		BAYHTRSW36A	36.0	2	60.1	70	62.1	70
10	WSC120AW	BAYHTRTW18A	18.0	1	42.6	45	45.4	45
		BAYHTRTW27A	27.0	2	53.5	60	56.4	60
		BAYHTRTW36A	36.0	2	64.2	70	67.1	70
		BAYHTRTW54A	54.0	2	73.0	80	75.9	80

(i) For standard and oversized motors, HACR breaker per NEC.

(ii) Heater kW ratings are at 208/240 for 208/230V unit.



Electrical Data

Table 44. Unit Wiring with Electric Heat (Single Point Connection) — Optional Belt Drive Indoor Motor

Tons	Unit Model Number	Heater Model Number	Heater kW Rating ⁽ⁱ⁾	Control Stages	MCA	Optional Belt Drive Indoor Motor
						Max Fuse Size or Max Circuit Breaker ⁽ⁱⁱ⁾
208/230 Volts Three Phase						
3	WSC036A3	BAYHTRR306A	4.5/6.0	1	37.4/39.8	45/45
		BAYHTRR312A	9.0/12.0	2	53.0/57.9	60/60
		BAYHTRR318A	13.1/17.4	2	67.1/74.1	70/80
4	WSC048A3	BAYHTRR306A	4.5/6.0	1	41.4/43.8	50/50
		BAYHTRR312A	9.0/12.0	2	57.0/61.9	60/70
		BAYHTRR318A	13.1/17.4	2	71.1/78.1	80/80
5	WSC060A3	BAYHTR306A	4.5/6.0	1	47.0/49.4	60/60
		BAYHTRR312A	9.0/12.0	2	62.6/67.5	70/70
		BAYHTRR318A	13.1/17.4	2	76.8/83.8	80/90
		BAYHTRR323A	17.3/23.0	2	91.4/100.5	100/110
460 Volts Three Phase						
3	WSC036A4	BAYHTRR406A	6.0	1	20.3	25
		BAYHTRR412A	12.0	2	29.3	30
		BAYHTRR418A	17.4	2	37.4	40
4	WSC048A4	BAYHTRR406A	6.0	1	21.9	25
		BAYHTRR412A	12.0	2	30.9	35
		BAYHTRR418A	17.4	2	39.1	40
5	WSC060A4	BAYHTRR406A	6.0	1	25.2	30
		BAYHTRR412A	12.0	2	34.2	40
		BAYHTRR418A	17.4	2	42.3	45
		BAYHTRR423A	23.0	2	50.8	60
575 Volts Three Phase						
3	WSC036AW	BAYHTRRW06A	6.0	1	16.2	20
		BAYHTRRW12A	12.0	2	23.3	25
		BAYHTRRW18A	17.4	2	29.8	30
4	WSC048AW	BAYHTRRW06A	6.0	1	17.6	20
		BAYHTRRW12A	12.0	2	24.7	25
		BAYHTRRW18A	17.4	2	31.2	35
5	WSC060AW	BAYHTRRW06A	6.0	1	19.9	20
		BAYHTRRW12A	12.0	2	27.1	30
		BAYHTRRW18A	17.4	2	33.6	35
		BAYHTRRW23A	23.0	2	40.3	45

⁽ⁱ⁾ Heater kW ratings are at 208/240 for 208/230V unit.

⁽ⁱⁱ⁾ HACR type circuit breaker per NEC.



Electrical Data

Table 45. Electrical Characteristics — Evaporator Fan Motor — 60 Cycle — Standard and Oversized Motor

Tons	Unit Model Number	No.	Standard Evaporator Fan Motor					Oversized Evaporator Fan Motor					
			Volts	Phase	HP	Amps		Volts	Phase	HP	Amps		
						FLA	LRA				FLA	LRA	
3	WSC036A3	1	208-230	1	.33	2.3	3.9	1	208-230	1	.50	4.7	9.8
	WSC036A4	1	460	1	.33	1.1	2.0	1	460	1	.50	2.3	5.2
	WSC036AW	1	575	1	.33	1.1	1.8	1	460	1	.50	1.7	3.6
4	WSC048A3	1	208-230	1	.60	3.6	6.6	1	208-230	1	.80	5.7	13.6
	WSC048A4	1	460	1	.60	1.7	2.8	1	460	1	.80	3.3	7.2
	WSC048AW	1	575	1	.60	1.5	2.4	1	575	1	.80	2.3	5.8
5	WSC060A3	1	208-230	1	.90	6.2	14.3	1	208-230	1	1.0	7.9	16.4
	WSC060A4	1	460	1	.90	2.9	6.6	1	460	1	1.0	3.2	8.2
	WSC060AW	1	575	1	.90	2.1	4.9	1	575	1	1.0	2.7	5.0
6	WSC072A3	1	208-230	3	1.0	5.0	32.2	1	208-230	3	2.0	6.3	48.0
	WSC072A4	1	460	3	1.0	2.5	16.1	1	460	3	2.0	3.1	24.0
	WSC072AW	1	575	3	1.0	1.7	13.2	1	575	3	2.0	2.5	18.2
7½	WSC090A3	1	208-230	3	1.0	5.0	32.2	1	208-230	3	3.0	9.4	83.0
	WSC090A4	1	460	3	1.0	2.5	16.1	1	460	3	3.0	4.6	42.0
	WSC090AW	1	575	3	1.0	1.7	13.2	1	575	3	3.0	3.7	31.0
10	WSC120A3	1	208-230	3	2.0	6.3	56.2	1	208-230	3	5.0	13.4	112.0
	WSC120A4	1	460	3	2.0	3.1	27.6	1	460	3	5.0	6.6	56.0
	WSC120AW	1	575	3	2.0	2.3	22.2	1	575	3	5.0	5.4	44.0

Table 46. Electrical Characteristics — Evaporator Fan Motor — 60 Cycle — Optional Belt Drive

Tons	Unit Model Number	No.	Volts	Phase	HP	Amps	
						FLA	LRA
3	WSC036A3	1	208-230	3	1.0	5.0	32.2
	WSC036A4	1	460	3	1.0	2.5	16.1
	WSC036AW	1	575	3	1.0	1.7	13.2
4	WSC048A3	1	208-230	3	1.0	5.0	32.2
	WSC048A4	1	460	3	1.0	2.5	16.1
	WSC048AW	1	575	3	1.0	1.7	13.2
5	WSC060A3	1	208-230	3	1.0	5.0	32.2
	WSC060A4	1	460	3	1.0	2.5	16.1
	WSC060AW	1	575	3	1.0	1.7	13.2



Electrical Data

Table 47. Electrical Characteristics — Compressor Motor and Condenser Motor — 60 Cycle

Tons	Unit Model Number	Compressor Motors							Condenser Fan Motors				
		No.	Volts	Phase	HP ⁽ⁱⁱ⁾	RPM	Amps ⁽ⁱ⁾		No.	Phase	HP	Amps	
							RLA	LRA				FLA	LRA
3	WSC036A3	1	208-230	3	3.1	3450	11.8	74.0	1	1	.25	1.5	2.5
	WSC036A4	1	460	3	3.1	3450	6.3	37.6	1	1	.25	0.6	1.3
	WSC036AW	1	575	3	3.1	3450	5.2	30.4	1	1	.25	0.5	1.2
4	WSC048A3	1	208-230	3	3.9	3450	14.6	91.0	1	1	.40	2.0	6.6
	WSC048A4	1	460	3	3.9	3450	7.3	46.0	1	1	.40	1.2	2.5
	WSC048AW	1	575	3	3.9	3450	6.0	37.0	1	1	.40	0.7	1.5
5	WSC060A3	1	208-230	3	5.1	3450	19.1	128.0	1	1	.40	2.0	6.6
	WSC060A4	1	460	3	5.1	3450	9.9	63.0	1	1	.40	1.2	2.5
	WSC060AW	1	575	3	5.1	3450	7.9	49.0	1	1	.40	0.7	1.5
6	WSC072A3	1	208-230	3	6.0	3450	18.6	156.0	1	1	.70	3.85	9.30
	WSC072A4	1	460	3	6.0	3450	9.3	75.0	1	1	.70	2.50	5.80
	WSC072AW	1	575	3	6.0	3450	7.4	54.0	1	1	.70	1.54	3.60
7½	WSC090A3	1	208-230	3	7.5	3450	26.0	181.5	1	1	.70	3.85	9.30
	WSC090A4	1	460	3	7.5	3450	13.5	95.0	1	1	.70	2.50	5.80
	WSC090AW	1	575	3	7.5	3450	10.9	69.0	1	1	.70	1.54	3.60
10	WSC120A3	2	208-230	3	4.8	3450	17.3	123	1	1	.75	4.0	9.4
	WSC120A4	2	460	3	4.8	3450	9.0	62.0	1	1	.75	2.8	6.8
	WSC120AW	2	575	3	4.8	3450	7.1	50.0	1	1	.75	2.4	6.2

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

⁽ⁱⁱ⁾ HP for each compressor.

Table 48. Electrical Characteristics — Power Exhaust

Tons	Volts	Phase	HP	RPM ⁽ⁱ⁾	FLA	LRA
6-10	208-230	1	0.87	1075	5.7	16.3
6-10	460	1	0.87	1075	3.3	6.8
6-10	575	1	0.87	1075	2.3	5.4

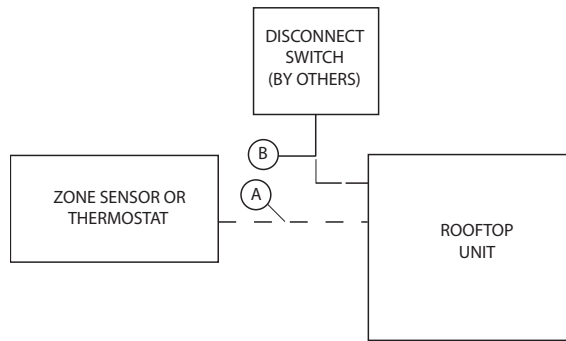
⁽ⁱ⁾ Two Speed.

Jobsite Connections

Table 49. 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
B	3 Power Wires + 1 Ground Wire (three 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

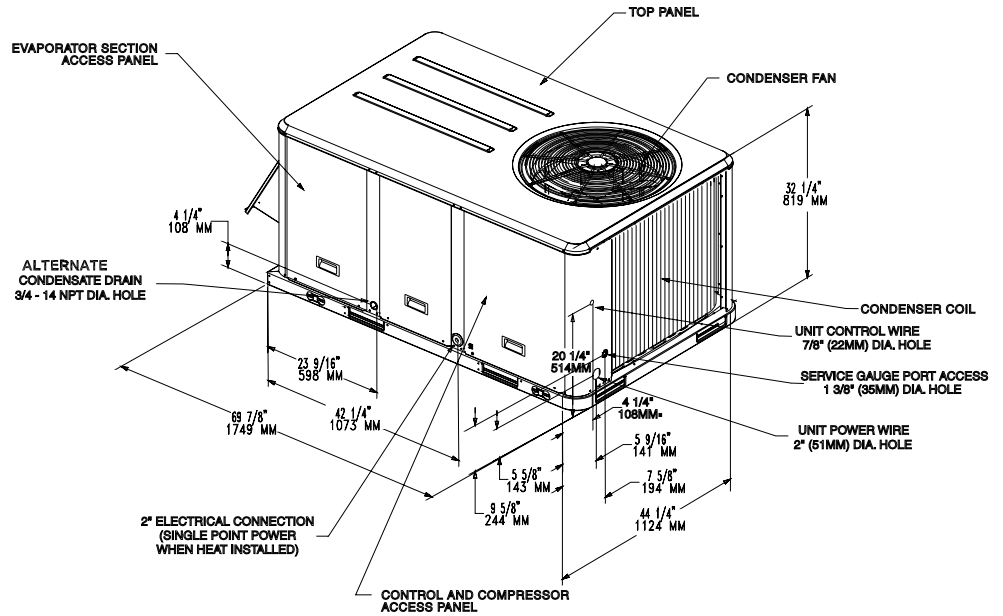


Figure 1. 3-5 Tons - WSC036A, WSC048A, WSC060A
 * All dimensions are in inches/millimeters.

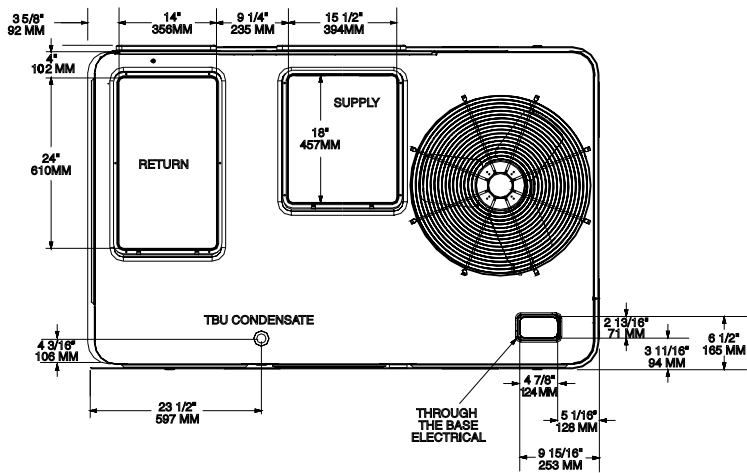


Figure 2. 3-5 Tons - Downflow Airflow Supply/Return - Through the Base Utilities
 * All dimensions are in inches/millimeters.

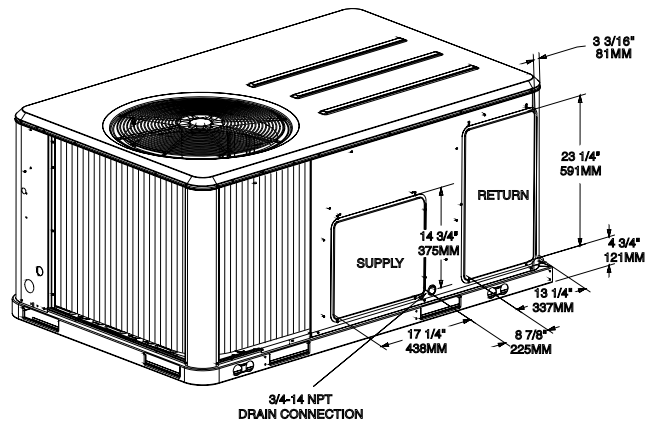


Figure 3. 3-5 Tons - Horizontal Airflow Supply/Return
 * All dimensions are in inches/millimeters.

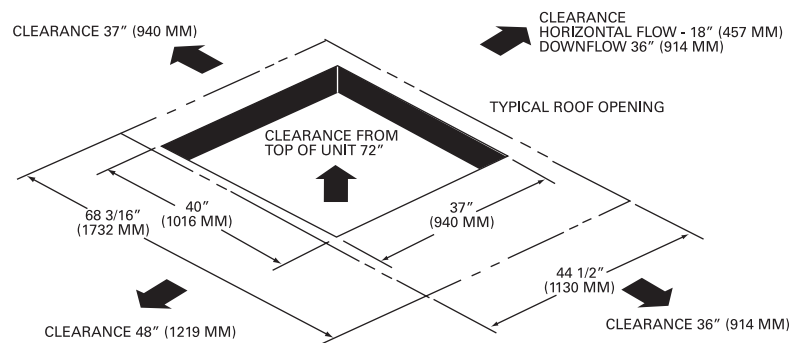


Figure 4. 3-5 Tons - Unit Clearance and Roof Opening
 * All dimensions are in inches/millimeters.

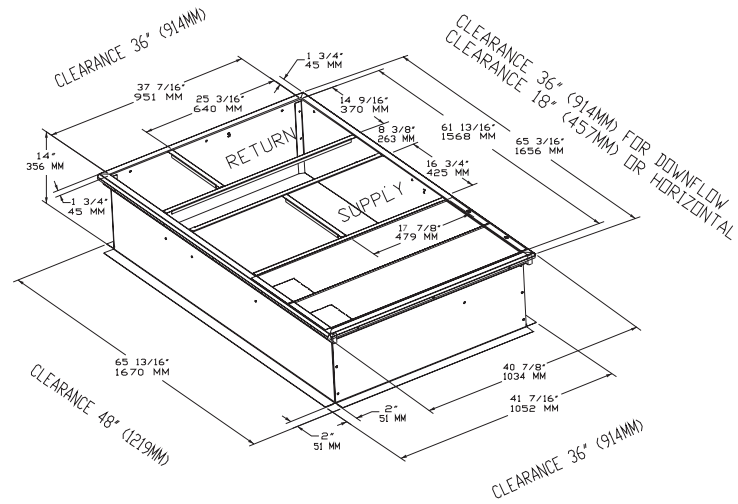


Figure 5. 3-5 Tons - Roof Curb

* All dimensions are in inches/millimeters.

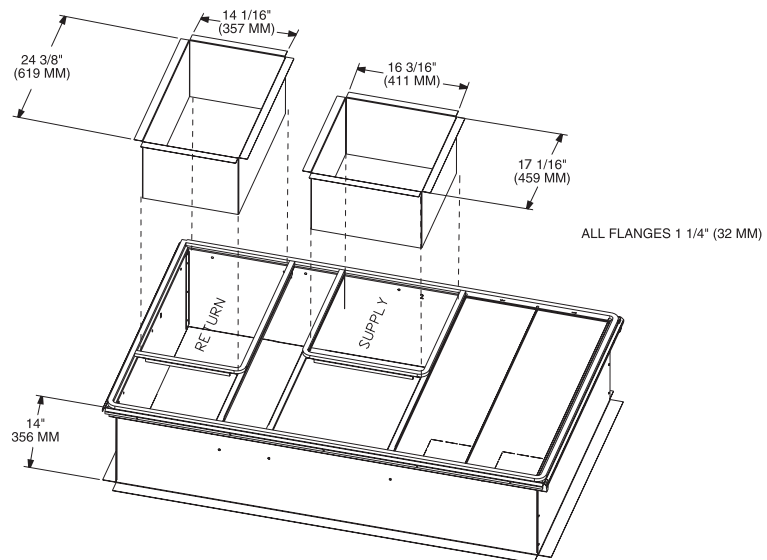


Figure 6. 3-5 Tons - Downflow Duct Connections - Field Fabricated

* All dimensions are in inches/millimeters.

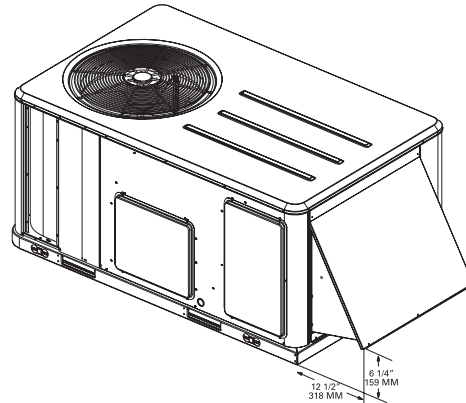


Figure 7. 3-5 Tons - Economizer, Manual or Motorized Fresh Air Damper

* All dimensions are in inches/millimeters.

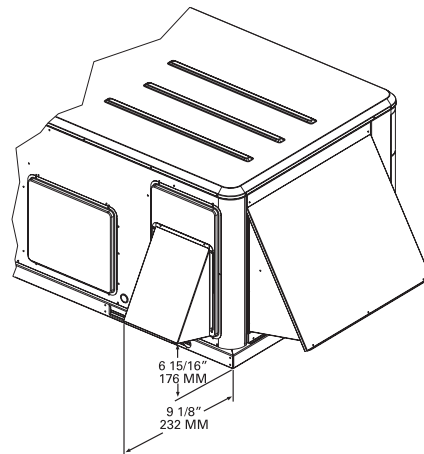


Figure 8. 3-5 Tons - Barometric Relief Damper Hood

* All dimensions are in inches/millimeters.

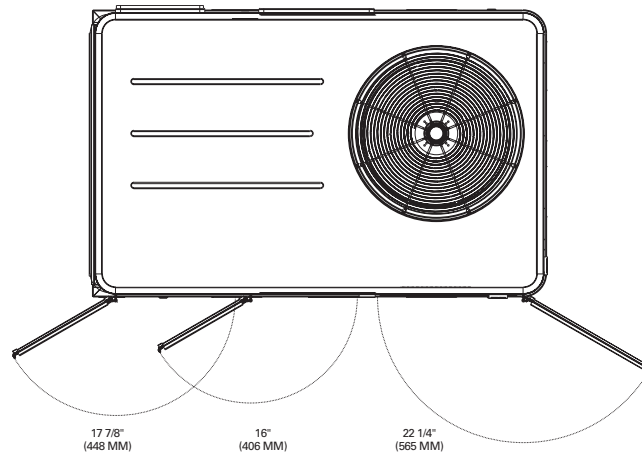


Figure 9. 3-5 Tons - Swing Diameter for Hinged Door(s) Option

* All dimensions are in inches/millimeters.

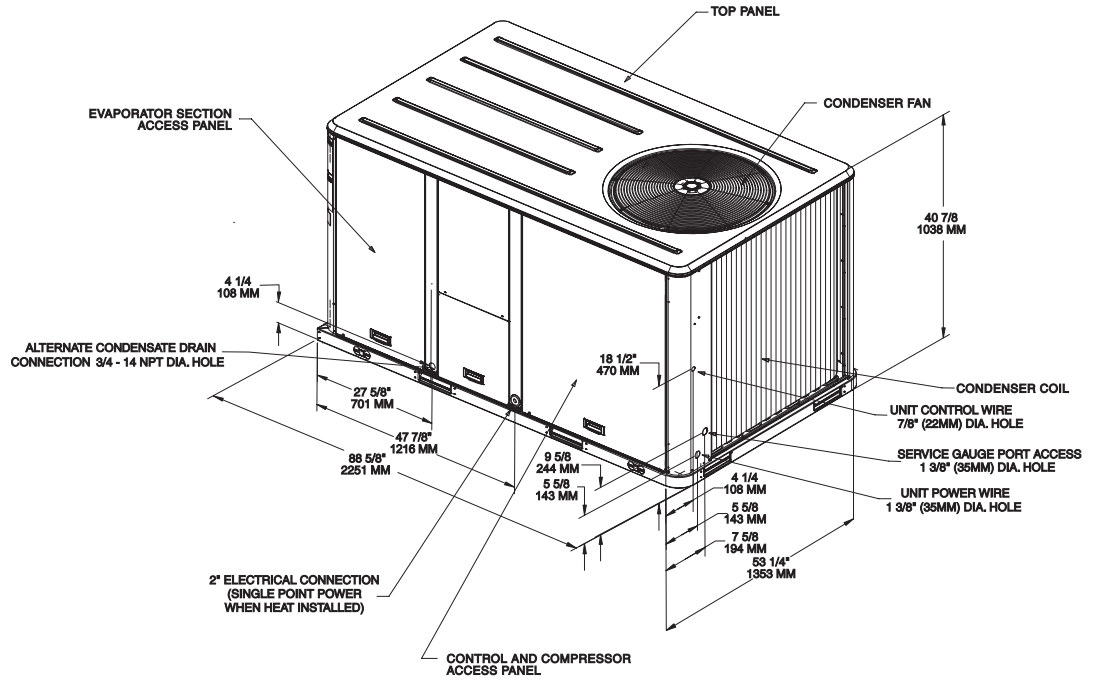


Figure 10. 6 and 7½ Tons - WSC072A, WSC090A

* All dimensions are in inches/millimeters.

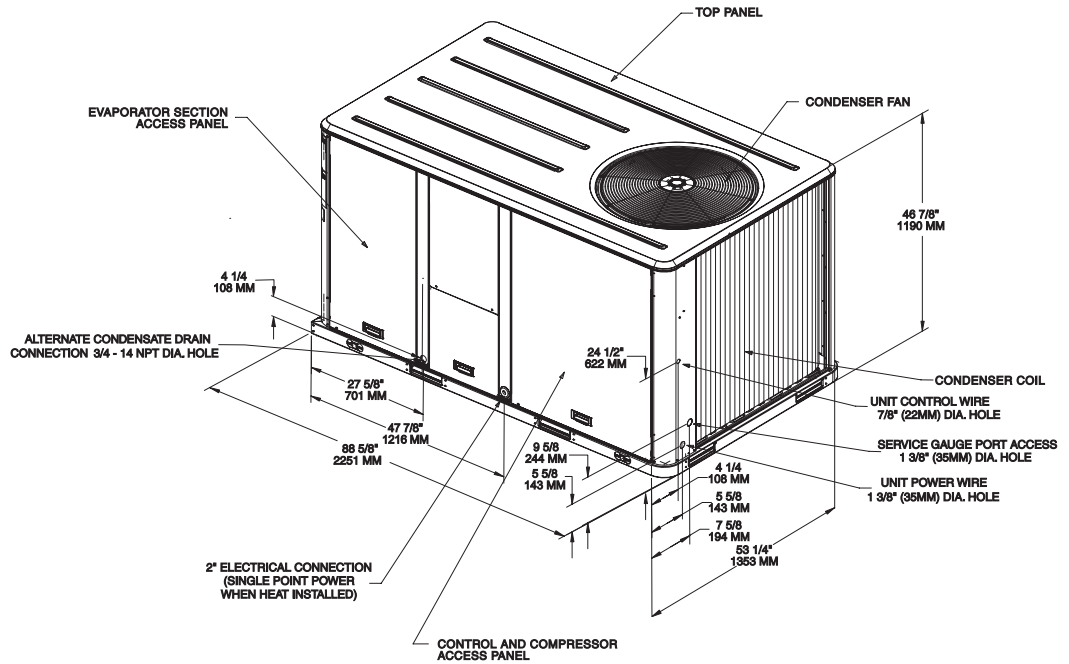


Figure 11. 10 Tons - WSC120A

* All dimensions are in inches/millimeters.

Dimensional Data

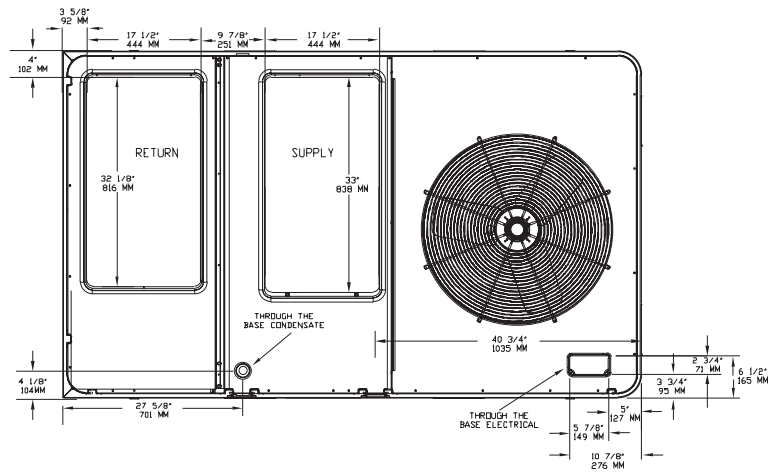


Figure 12. 6-10 Tons - Downflow Airflow Supply/Return Through the Base Utilities

* All dimensions are in inches/millimeters.

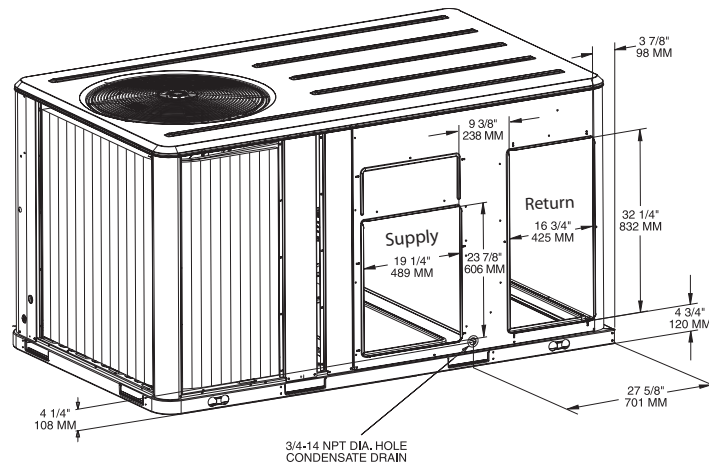


Figure 13. 6-10 Tons - Horizontal Airflow Supply and Return

* All dimensions are in inches/millimeters.

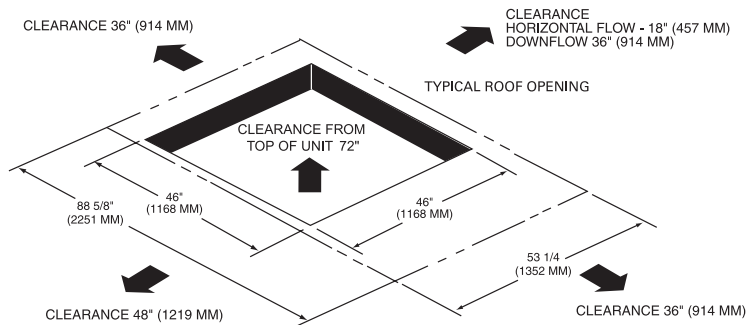


Figure 14. 6-10 Tons - Unit Clearance and Roof Opening

* All dimensions are in inches/millimeters.

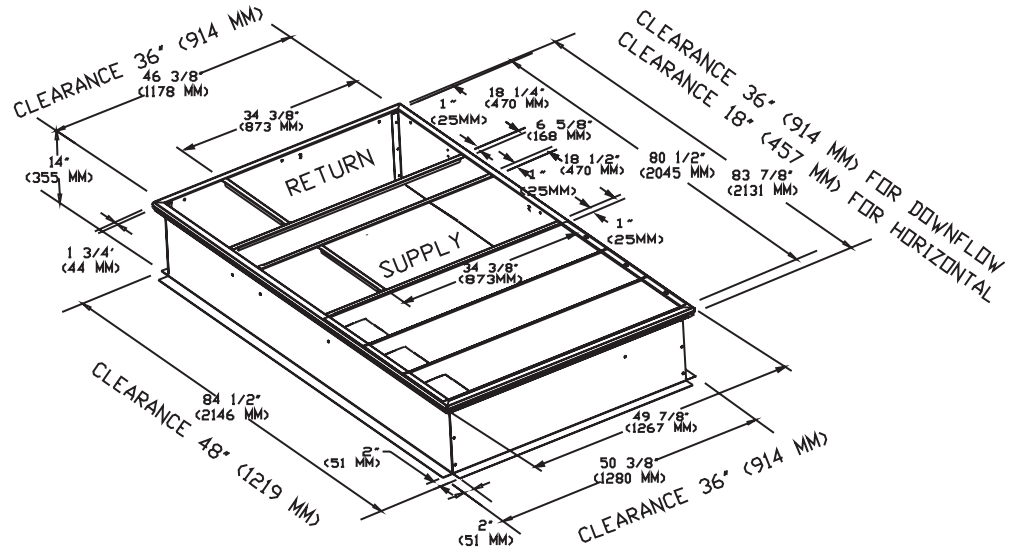


Figure 15. 6-10 Tons - Roof Curb
 * All dimensions are in inches/millimeters.

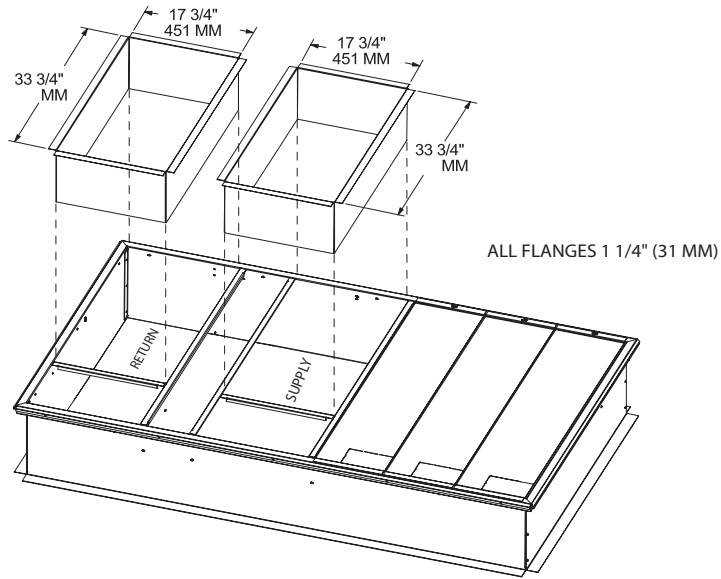


Figure 16. 6-10 Tons - Downflow Duct Connections Field Fabricated
 * All dimensions are in inches/millimeters.

Dimensional Data

(Options/Accessories)

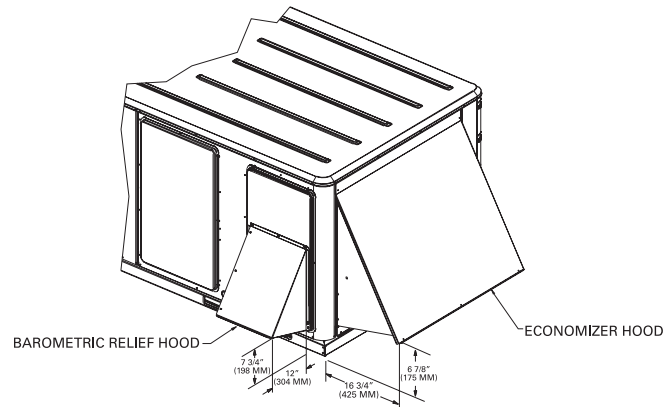


Figure 17. 6-10 Tons - Economizer, Manual or Motorized Fresh Air Damper

* All dimensions are in inches/millimeters.

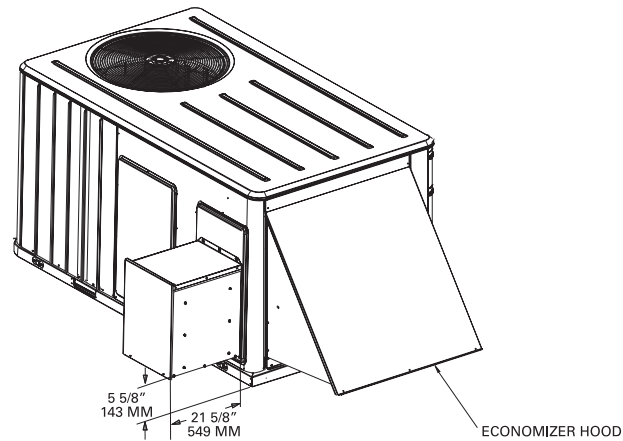


Figure 18. 6-10 Tons - Power Exhaust

* All dimensions are in inches/millimeters.

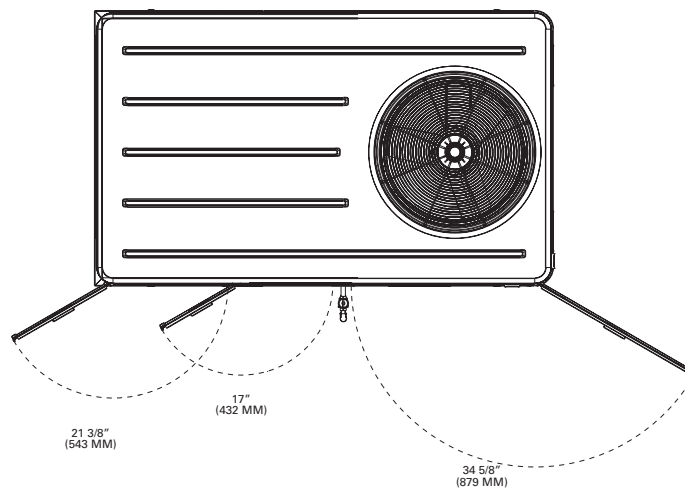


Figure 19. 6-10 Tons - Swing Diameter for Hinged Door(s) Option

* All dimensions are in inches/millimeters.

Weights

Table 50. Maximum Unit & Corner Weights (Lbs) and Center of Gravity Dimensions (in.)

Tons	Unit Model No.	Maximum Weight (Lbs.)		Corner Weights ⁽ⁱ⁾				Center of Gravity (in.)	
		Shipping	Net	A	B	C	D	Length	Width
3	WSC036A	534	442	138	110	88	105	31	19
4	WSC048A	566	474	151	114	95	114	31	19
5	WSC060A	584	492	160	118	97	117	31	19
6	WSC072A	867	724	243	184	128	170	38	22
7½	WSC090A	937	794	272	200	137	185	38	22
10	WSC120A	1084	941	320	243	162	215	38	21

⁽ⁱ⁾ Corner weights are given for information only.

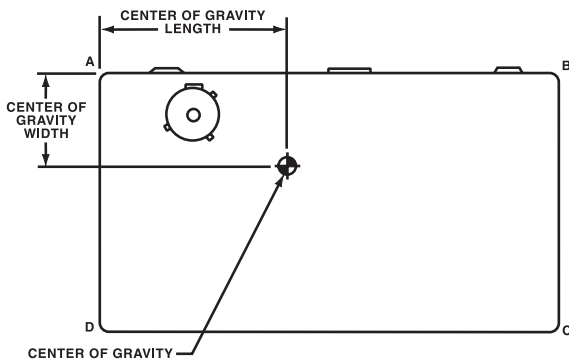


Table 51. Factory Installed Options (FIOPS)/Accessory Net Weights (Lbs)^{(i), (ii)}

Accessory	Net Weight	
	3-5 Tons	6-10 Tons
Economizer	26	36
Barometric Relief	7	10
Powered Exhaust	—	80
Motorized Outside Air Damper	20	30
Manual Outside Air Damper	16	26
Roof Curb	70	115
Oversized Motor	5	8
Belt Drive Motor	38	—
Smoke Detector, Return	7	7
Smoke Detector, Supply	5	5
Coil Guards	12	20
Hinged Doors	10	12
Powered Convenience Outlet	38	38
Through the Base Electrical	8	13
Electric Heaters	15	30
Unit Mounted Circuit Breaker	5	5
Unit Mounted Disconnect	5	5

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

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



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 ARI testing procedures. All units shall be factory assembled, internally wired, fully charged with R-22, 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 UL listed and labeled, classified in accordance to UL 1995/ CAN/CSA No. 236-M90 for Central Cooling Air Conditioners. Canadian units shall be CSA Certified.

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 1000 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 only a single fastener 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 1/2 inch, 1 pound density foil-faced, closed-cell material. 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.

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.

Filters

One inch, throwaway filters shall be standard on all 3-5 ton units. The filter rack can be converted to two inch capability. Two inch filters shall be factory supplied on all 6-10 ton units. Optional 2-inch pleated filters shall be available.

Compressors

All 3 ton standard units shall have direct-drive, hermetic, reciprocating type compressors. The reciprocating type compressors have a centrifugal oil pump providing positive lubrication to moving parts. Motor shall be suction gas-cooled and shall have a voltage utilization range of plus or minus 10 percent of unit nameplate voltage. Crankcase heater, internal temperature, and current-sensitive motor overloads shall be included for maximum protection. Compressors shall have internal spring isolation and sound muffling to minimize vibration transmission and noise. Low pressure switches shall be standard.

3 ton high efficiency and 4-10 ton standard and high efficiency 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 7 1/2 ton standard efficiency units.

Refrigerant Circuits

Each refrigerant circuit offers independent fixed orifice expansion devices. Service pressure ports, and refrigerant line filter driers are factory-installed as standard. An area shall be provided for replacement suction line driers.

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 200 psig and pressure tested to 450 psig. The condenser coil shall have a patent pending 1+1+1 hybrid coil designed with slight gaps for ease of cleaning. A removable, reversible, double-sloped condensate drain pan with provision for through the base condensate drain is standard.

Outdoor Fans

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

Indoor Fan

All 3-5 ton 3-phase units offer a choice of direct-drive, FC, centrifugal fans or belt driven, FC centrifugal fans with adjustable motor sheaves. 3-5 ton direct drive oversized motors shall be available for high static operations. All 6-10 ton units shall have belt drive motors with an adjustable idler-arm assembly for quick-adjustment to fan belts and motor sheaves. All motors shall be thermally protected. All indoor fan motors meet the U.S. Energy Policy Act of 1992 (EPACT).



Mechanical Specifications

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 provide for all 24 volt 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.

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.

High Pressure Cutout

This is offered for units that do not have High Pressure cutout as standard. All 3-phase units with scroll compressors include High Pressure Cutout as standard.

Hinged Access Doors

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

Phase Monitor

Phase monitor shall provide 100% protection for motors and compressors against problems caused by phase loss, phase imbalance, and phase reversal. Phase monitor is equipped with an LED that provides an ON or FAULT indicator.

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.

Supply and/or Return Air Smoke Detector

With this option, if smoke is detected, all unit operation will be shut down. Reset will be manual at the unit. Return Air Smoke Detectors require minimum allowable airflow when used with certain models. See the Installation, Operation, and Maintenance (IOM) manual for the models affected and the minimum allowable airflow required. This option is available for microprocessor controlled units.

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 UL guidelines, and be agency recognized by UL/CSA.

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 UL/CSA agency recognized. Note: The disconnect switch will be sized per NEC and UL guidelines but will not be used in place of unit overcurrent protection.

Two-Inch Pleated Filters

Two inch pleated media filters shall be available on all models.

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 either a zone sensor with status indication lights or an Integrated Comfort™ System. 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 Sensing

This option provides true discharge air sensing in heating models. This sensor is a status indicator readable through Tracer™ or Tracker™. This option is available for microprocessor controlled units.



Mechanical Specifications

Economizer

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.

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 volt. 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 UL listed or CSA certified.

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.

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.

Oversized Motors

Direct drive oversized motors shall be available for high static applications.

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.

Digital Display Zone Sensor

The Digital LCD (Liquid Crystal Display) zone sensor has the look and functionality of standard zone sensors. This sensor includes a digital display of set point adjustment and space temperature in F (Fahrenheit) or C (Celsius). Includes FAN and SYSTEM buttons (supports the service functions of the standard sensor). E-squared memory stores last programmed set points. Requires 24 VAC (Volts AC). This sensor should be utilized with ReliaTel™ controls.

Dual Thermistor Remote Zone Sensor

This sensor will allow the customer to reduce the total number of remote sensors to obtain space temperature averaging. This sensor should be utilized with ReliaTel controls.

High Static Drive

The high static drive option shall allow the standard motor on the 6 and 7½ ton units to operate with improved external static capabilities.

Manual Outside Air Damper

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

Motorized Outside Air Dampers

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.

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 design shall comply with NRCA requirements. 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.

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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