Split System Cooling

Cooling Units
6 to 20 Ton - 60 Hz, R-410A

Air Handlers
5 to 20 Ton - 60 Hz, R-410A

September 2009

SS-PRC028-EN

Introduction

Trane's reputation for providing quality comfort solutions continues with the development of the next generation Light Commercial Odyssey Split Systems.

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

Wide network availability

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

Flexible applications

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

Easy to install

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

Built-in reliability

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

Easy to service

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

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

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Features & Benefits

Standard Features

- 5-year Limited Compressor Warranty[1]
- 1-year Limited Parts Warranty
- Anti-Short Cycle Timer
- Colored and Numbered Wiring
- Convertible Airflow
- Crankcase Heaters
- Easy Access Low Voltage Terminal Board (LTB)
- Electromechanical or ReliaTel Microprocessor Controls
- Filters are Standard on all Units
- Foil-Faced and Edge Captured Insulation
- High Pressure Control
- IAQ Dual Sloped and Removable Drain Pans
- Liquid Line Refrigerant Drier
- Low Ambient Cooling to 0°F on Microprocessor Models[2]
- Low Ambient Cooling to 50°F on Electromechanical Models
- Low Pressure Control
- Belt Drive Motors
- Phase Loss/Reversal Monitor
- Quick Access Panels
- Single Point Power
- Single Side Service
- Standardized Components
- Thermal Expansion Valve
- Scroll Compressors
- FrostStat™ - Evaporator Defrost Control (EDC)
- Low Voltage Circuit Protection
- Compressor Discharge Temperature Limit (DLT)

Options

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

Factory Installed Options

- ReliaTel Controls (Microprocessor)
- Black Epoxy Pre-Coated Coils

Factory or Field Installed Options

- LonTalk® Communications Interface (LCI)
- Hail/Vandal Guards

[1] Not available for 20 Ton.
[2] Modulating BAYLOAM recommended.

Field Installed Options

- High Static Motor Kit
- Low Static Motor Kit
- Electric Heaters
- Trane Communications Interface (TCI)
- Vibration Isolators
- Hot Gas Bypass[1]
- Zone Sensor
- Thermostat
- Low Ambient

Other Benefits

- Cabinet design ensures water integrity
- Ease of Service, Installation and Maintenance
- Mixed model build enables “fastest in the industry” ship cycle times
- Outstanding Airflow Distribution
- ReliaTel Controls
- Unmatched Product Support is one of our finest assets. Trane Sales Representatives are a Support Group that can assist you with:
  - Product
  - Application
  - Service
  - Training
  - Special Applications
  - Specifications
  - Computer Programs and much more

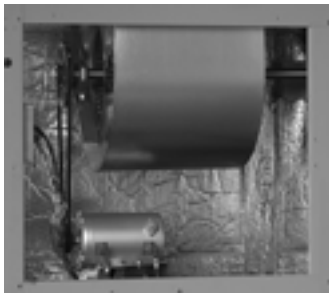
Standard Features

Anti-Short Cycle Timer

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

Belt Drive Motors

For additional static requirements, Odyssey 5-20 ton units offer standard belt drive motors to meet and exceed a wide range of airflow needs.



Colored And Numbered Wiring

Save time and money tracing wires and diagnosing the unit.

[1] Head Pressure Control recommended.

Compressors

Odyssey contains the best compressor technology available to achieve the highest possible performance. Dual compressors perform very well under part load cooling conditions and system back-up applications. Dual compressors are available on 10-20 ton models and allow for efficient cooling utilizing 2-stages of compressor operation.

Controls – ReliaTel or Electromechanical

ReliaTel microprocessor controls provide unit control for heating and cooling 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. For the simpler job that does not require a building automation system, or expanded diagnostics capabilities, Odyssey offers electromechanical controls. This 24-volt control includes the control transformer and contactor pressure lugs for power wiring.

Convertible Units

The units ship in a horizontal configuration. They can be easily converted to vertical by simply repositioning the drain pan. Units come complete with duct flanges so the contractor doesn't have to field fabricate them. These duct flanges are a time and cost saver.

Crankcase Heaters

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

Dual Sloped Drain Pans

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

Easy Access Low Voltage Terminal Board

Odyssey's Low Voltage Terminal Board is external to the line voltage electrical 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 internal air handler surfaces have cleanable foil-faced insulation. All edges are either captured or sealed to ensure that insulation fibers do not get into the airstream.

Frostat™

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

High Pressure Control

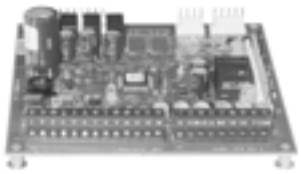
All units include High Pressure Control as standard.

Low Ambient Cooling

All Odyssey microprocessor units have cooling capabilities down to 0°F as standard. Electromechanical models have cooling capabilities to 50°F as built, or to 0°F by adding an optional low ambient kit.

Low Voltage Connections

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



Phase Monitor/Reversal Protection

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

Quick-Access Panels

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

Single Point Power

A single electrical connection powers the unit.

Single Side Service

Single side service is standard on all units.

Standardized Components

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

Thermal Expansion Valve with Bypass Check Valves

This feature is standard on all units.

Variety of Options

Factory Installed Options

Note: *Refer to Model Number Description or Mechanical Specifications for availability.*

Black Epoxy Pre-Coated Coils

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

Factory or Field Installed Options

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

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.

Hail/Vandal Guards

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

Field Installed Options

Note: *Refer to Model Number Description or Mechanical Specifications availability.*

Trane Communication Interface (TCI)

This module, when applied with ReliaTel™ , easily interfaces with Trane's Integrated Comfort™ System.

Electric Heaters

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

High/Low Static Motor

Available on many models, this high static motor accessory extends the capability of the standard unit.

Low Ambient

Provides ability to cool space when outdoor ambient is below 50°F. Choice of fan on/off or modulating control.

Zone Sensors/Thermostats

Available in programmable, automatic and manual styles.

Other Benefits

Airflow Distribution

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

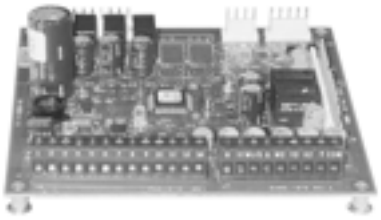
Easy to Install, Service and Maintain

Because today's owners are very cost-conscious when it comes to service and maintenance, the Trane Odyssey was designed with direct input from service contractors. This valuable information helped to design a product that would get the service person off the job quicker and save the owner money. Odyssey offers outstanding standard features enhanced by a variety of factory and field installed options, multiple control options, rigorously tested proven designs and superior product and technical support.

Flexibility

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

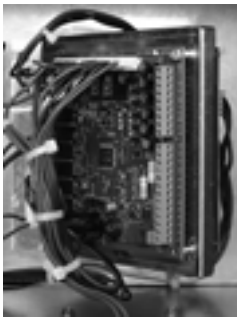
ReliaTel™ Controls



ReliaTel controls provide unit control for heating and cooling, 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.



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

ReliaTel Makes Installing and Servicing Easy

ReliaTel eliminates the need for field installed time delay relays.

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

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

ReliaTel Makes Testing Easy

ReliaTel requires no special tools to run the Odyssey unit through its paces. Simply place a jumper between Test 1 (T1) and Test 2 (T2) 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" 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.

Other ReliaTel Benefits

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

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

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

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

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

Unit Cabinet

The compact cabinet takes up less room and is less costly to ship.

Rigorous Testing

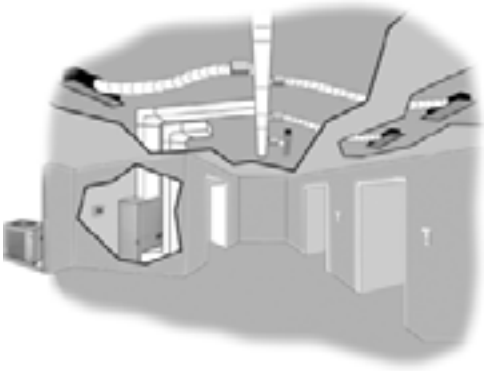
All of Odyssey’s designs are rigorously rain tested to ensure water integrity. Actual shipping tests are performed to determine packaging requirements. Units are test shipped around the country to determine the best packaging. Factory shake and drop tests are used as part of the package design process to help assure that the unit arrives at the job site in top condition.

Rigging tests include lifting a unit into the air and letting it drop one foot, assuring that the lifting lugs and rails hold up under stress. A 100% coil leak test is performed at the factory. The condenser coils are leak tested at 660 psig and evaporators to 450 psig.

All parts are inspected at the point of final assembly. Sub-standard parts are identified and rejected immediately. Every unit receives a 100% unit run test before leaving the production line to ensure it lives up to rigorous Trane requirements.

VariTrac – Building Automation System

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



Available Accessories - TTA/TWE

MODEL	USED WITH	DESCRIPTION
Base (Subbase)		
BAYBASE009A	TWE061D/E	Subbase
BAYBASE010A	TWE090D/E	
BAYBASE011A	TWE120D/E	
BAYBASE012A	TWE150E, TWE180E	
BAYBASE013A	TWE240E	
Drip Kit		
BAYDRKT006A	TWE061D/E	Drip Kit
BAYDRKT007A	TWE090D/E	
BAYDRKT008A	TWE120D/E	
BAYDRKT009A	TWE150E, TWE180E	
BAYDRKT010A	TWE240E	
Coil Guard		
BAYGARD058A	TTA073D, TTA090D	Hail Guard
BAYGARD059A	TTA120D/E/F	
BAYGARD060A	TTA150E	
BAYGARD061A	TTA180E/F, TTA240E/F	
Return Air Grille		
BAYGRLE001A	TWE061D/E	Return Air Grille
BAYGRLE002A	TWE090D/E	
BAYGRLE003A	TWE120D/E	
BAYGRLE004A	TWE150E, TWE180E	
BAYGRLE005A	TWE240E	
HOT GAS BY-PASS		
BAYHGBP010A	TTA090D - TTA240F	Universal Hot Gas Bypass Kit
High Static Motor		
BAYHSMT104A	TWE061D1/E1	1.5HP (230/1) w/ 1VL44 motor sheave w/ AK54 fan sheave w/ A44 belt
BAYHSMT105A	TWE061D3-4/E3-4	1.5HP (230-460/3) w/ 1VL44 motor sheave w/ AK54 fan sheave w/ A44 belt
BAYHSMT106A	TWE061DW/EW	1.5HP (575/3) w/ 1VL44 motor sheave w/ AK54 fan sheave w/ A44 belt
BAYHSMT107A	TWE090D1/E1	2 HP (230/1) w/ 1VL44 motor sheave w/ AK66 fan sheave w/ A50 belt
BAYHSMT108A	TWE090D3/E3	2 HP (230/460/3) w/ 1VL44 motor sheave w/ AK66 fan sheave w/ A50 belt
BAYHSMT109A	TWE090DW/EW	2 HP (575/3) w/ 1VL44 motor sheave w/ AK66 fan sheave w/ A50 belt
BAYHSMT110A	TWE090D3/E3	3 HP (230/460/3) w/ 1VP44 motor sheave w/ AK54 fan sheave w/ AX48 belt
BAYHSMT111A	TWE090DW/EW	3 HP (575/3) w/ 1VP44 motor sheave w/ AK54 fan sheave w/ AX48 belt
BAYHSMT112A	TWE120D3/E3	3 HP (230/460/3) w/ 1VP44L motor sheave w/ AK74 fan sheave w/ A51 belt
BAYHSMT113A	TWE120DW/EW	3 HP (575/3) w/ 1VP44L motor sheave w/ AK74 fan sheave w/ A51 belt
BAYHSMT114A	TWE150E3	3 HP (230/460/3) w/ 1VP44L motor sheave w/ BK72 fan sheave w/ A51 belt
BAYHSMT115A	TWE150EW	3 HP (575/3) w/ 1VP44L motor sheave w/ BK72 fan sheave w/ A51 belt
BAYHSMT116A	TWE150E3	5 HP (230/3) w/ 1VP50L motor sheave w/ BK72 fan sheave w/ BX55 belt
BAYHSMT117A	TWE150E3[a]	5 HP (460/3) w/ 1VP50L motor sheave w/ BK72 fan sheave w/ BX55 belt

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Features & Benefits

MODEL	USED WITH	DESCRIPTION
BAYHSMT118A	TWE150EW	5 HP (575/3) w/ 1VP50L motor sheave w/ BK72 fan sheave w/ BX55 belt
BAYHSMT119A	TWE180E3	5 HP (230/3) w/ 1VP50L motor sheave w/ BK85 fan sheave w/ BX58 belt
BAYHSMT120A	TWE180E3[a]	5 HP (460/3) w/ 1VP50L motor sheave w/ BK85 fan sheave w/ BX58 belt
BAYHSMT121A	TWE180EW	5 HP (575/3) w/ 1VP50L motor sheave w/ BK85 fan sheave w/ BX58 belt
BAYHSMT122A	TWE240E3/4	7.5 HP (230/460/3) w/ 1VP60 motor sheave w/ BK90 fan sheave w/ BX60 belt
BAYHSMT123A	TWE240EW	7.5 HP (575/3) w/ 1VP60 motor sheave w/ BK90 fan sheave w/ BX60 belt
Electric Heaters		
BAYHTRL106A	TWE061D1-TWE120E1	4.33/5.76 KW Heater 208/240/1 Phase
BAYHTRL112A	TWE061D1-TWE120E1	8.65/11.52 KW Heater 208/240/1 Phase
BAYHTRL117A	TWE061D1-TWE120E1	12.98/17.28 KW Heater 208/240/1 Phase
BAYHTRL123A	TWE061D1-TWE120E1	17.30/23.04 KW Heater 208/240/1 Phase
BAYHTRL129A	TWE061D1-TWE120E1	21.65/28.80 KW Heater 208/240/1 Phase
BAYHTRL305A	TWE061D3-TWE120E3	3.75/5.00 KW Heater 208/240/3 Phase
BAYHTRL310A	TWE061D3-TWE120E3	7.45/9.96 KW Heater 208/240/3 Phase
BAYHTRL315A	TWE061D3-TWE120E3	11.25/14.96 KW Heater 208/240/3 Phase
BAYHTRL325A	TWE061D3-TWE120E3	18.71/24.92KW Heater 208/240/3 Phase
BAYHTRL335A	TWE061D3-TWE120E3	26.20/34.88 KW Heater 208/240/3 Phase
BAYHTRL405A	TWE061D4-TWE120E4	5.00 KW Heater 460/3 Phase
BAYHTRL410A	TWE061D4-TWE120E4	9.96 KW Heater 460/3 Phase
BAYHTRL415A	TWE061D4-TWE120E4	14.96 KW Heater 460/3 Phase
BAYHTRL425A	TWE061D4-TWE120E4	24.92 KW Heater 460/3 Phase
BAYHTRL435A	TWE061D4-TWE120E4	34.88 KW Heater 460/3 Phase
BAYHTRLW05A	TWE061DW-TWE120EW	5 KW Heater 575/3 Phase
BAYHTRLW10A	TWE061DW-TWE120EW	9.96 KW Heater 575/3 Phase
BAYHTRLW15A	TWE061DW-TWE120EW	14.96 KW Heater 575/3 Phase
BAYHTRLW25A	TWE061DW-TWE120EW	24.92 KW Heater 575/3 Phase
BAYHTRLW35A	TWE061DW-TWE120EW	34.88 KW Heater 575/3 Phase
BAYHTRM310A	TWE150E3-TWE240E3	7.50/10.0 KW Heater 208/230 3 Phase
BAYHTRM320A	TWE150E3-TWE240E3	14.96/19.92 KW Heater 208/230 3 Phase
BAYHTRM330A	TWE150E3-TWE240E3	22.50/29.92 KW Heater 208/230 3 Phase
BAYHTRM350A	TWE150E3-TWE240E3	37.42/49.84 KW Heater 208/230 3 Phase
BAYHTRM410A	TWE150E4-TWE240E4	10.0 KW Heater 460/3 Phase
BAYHTRM420A	TWE150E4-TWE240E4	19.92 KW Heater 460/3 Phase
BAYHTRM430A	TWE150E4-TWE240E4	29.92 KW Heater 460/3 Phase
BAYHTRM450A	TWE150EW-TWE240EW	49.84 KW Heater 460/3 Phase
BAYHTRMW10A	TWE150EW-TWE240EW	10.0 KW Heater 575/3 Phase
BAYHTRMW20A	TWE150EW-TWE240EW	19.92 KW Heater 575/3 Phase
BAYHTRMW30A	TWE150EW-TWE240EW	29.92 KW Heater 575/3 Phase
BAYHTRMW50A	TWE150EW-TWE240EW	49.84 KW Heater 575/3 Phase
Trane Communication Interface		
BAYICSI003A	TTA090D-TTA240F	Comm 3/4 Communications Interface

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MODEL	USED WITH	DESCRIPTION
Isolators		
BAYISLT004A	TTA073D-TTA090D, TWE061D-TWE120E	Rubber Isolator Kit
BAYISLT005A	TTA120D/E/F	
BAYISLT009A	TTA150E, TTA180E/F, TWE150E, TWE180E	
BAYISLT010A	TTA240E/F, TWE240E	
BAYISLT012B	TWE150E, TWE180E	
BAYISLT013B	TWE061D/E	
BAYISLT014A	TWE090D/E	
BAYISLT015B	TWE120D/E	
BAYISLT016B	TWE240E	
BAYISLT019A	TWE061D/E, TWE090D/E, TWE120D/E	
BAYISLT021A	TWE150E, TWE180E	
BAYISLT023A	TTA073D, TTA086D, TTA090D, TTA120D	Steel Spring Isolator Kit
BAYISLT024A	TTA120E/F, TTA150E, TTA180E/F	
BAYISLT025A	TTA240E/F	
BAYISLT028A	TWE061D/E	
BAYISLT029A	TWE090D/E, TWE120D/E	
BAYISLT030A	TWE150E, TWE180E	
BAYISLT031B	TWE240E	
BAYISLT032A	TWE240E	
Low Ambient		
BAYLOAMU01A	TTA073, TTA090A	On/Off Fan Control Mounted in External Enclosure (small cabinets)
BAYLOAMU02A	TTA120, TTA150, TTA180, TTA240	On/Off Fan Control Mounted in Unit Control Box large cabinets)
BAYLOAM332A	TTA073D3, TTA090D3	Modulating P-66 Head Pressure Control w/ 208-230V 0.5 HP Hi-Eff Motor (external mount)
BAYLOAM333A	TTA120D3/E3/F3, TTA150E3	Modulating P-66 Head Pressure Control w/ 208-230V 1 HP Hi-Eff Motor (external mount)
BAYLOAM334A	TTA180E3/F3, TTA240E3/F3	Modulating P-66 Head Pressure Control w/ 208-230V 1 HP Hi-Eff Motor (internal mount)
BAYLOAM432A	TTA073D4, TTA090D4	Modulating P-66 Head Pressure Control w/ 460V 0.5 HP Hi-Eff Motor (external mount)
BAYLOAM433A	TTA120D4/E4/F4, TTA150E4	Modulating P-66 Head Pressure Control w/ 460V 1.0 HP Hi-Eff Motor (external mount)
BAYLOAM434A	TTA180E4/F4, TTA240E4/F4	Modulating P-66 Head Pressure Control w/ 460V 1.0 HP Hi-Eff Motor (internal mount)
Low Static Drive Kit		
BAYLSMT001A	TWE240E	Low Static Drive Kit
LonTalk Communications Interface		
BAYLTCI002B	TTA090D-TTA240F	LonTalk Communications Interface

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Features & Benefits

MODEL	USED WITH	DESCRIPTION
Plenum		
BAYPLNM015B	TWE061D/E	Discharge Plenum & Grille
BAYPLNM016B	TWE090D/E	
BAYPLNM017B	TWE120D/E	
BAYPLNM018B	TWE150E, TWE180E	
BAYPLNM019B	TWE240E	
BAYPLNM020B	TWE061D/E	Hydronic Coil Discharge Plenum & Grille
BAYPLNM021B	TWE090D/E	
BAYPLNM022B	TWE120D/E	
BAYPLNM030A	TWE061D/E	Electric Heat Discharge Plenum & Grille
BAYPLNM031A	TWE090D/E	
BAYPLNM032A	TWE120D/E	
BAYPLNM033A	TWE150, TWE180E	
BAYPLNM034A	TWE240E	
Time Delay Relay		
BAYRLAY002	TTA090D-TTA240F	Time Delay Relay
Transformer		
BAYTFMR011A	TWE090D3, TWE090E3, TWE120D3, TWE120E3	75va transformer (230V)
BAYTFMR012A	TWE090D4/W, TWE090E4/W, TWE120D4/W, TWE120E4/W	75va transformer
BAYTFMR013A	TWE075DD, TWE075ED, TWE090DK, TWE090EK, TWE100DD, TWE100ED, TWE120DK, TWE120EK	
Water Kits		
BAYWATR022A	TWE061D/E	Steam Coil Enclosure
BAYWATR023A	TWE090D/E	
BAYWATR024A	TWE120D/E	
BAYWATR025A	TWE150E, TWE180E	
BAYWATR026A	TWE240E	
BAYWATR027A	TWE061D/E	Hot Water Coil Enclosure
BAYWATR028A	TWE090D/E	
BAYWATR029A	TWE120D/E	
BAYWATR030A	TWE150E, TWE180E	
BAYWATR031A	TWE240E	
Wire Kit		
BAYWRKT002A	TWE061D-TWE120E	180 Blower Discharge Reversal Kit

(a) When used with 460V application.

Application Considerations

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

Clearance Requirements

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

180° Blower Rotation

The 5, 7½, and 10 ton air handler blower section can be rotated 180° to change the discharge pattern. This modification must be done in the field and requires an additional kit. See unit installer's guide.

Low Ambient Cooling

As manufactured, electromechanical units can operate to 50° F in the cooling mode of operation. An accessory head pressure control will allow operation to 0° F outdoor ambient. When using these units with control systems such as bypass changeover Variable Air Volume, make sure to consider the requirement for a head pressure control to allow low ambient cooling.

Figure 1. Typical Split System Application

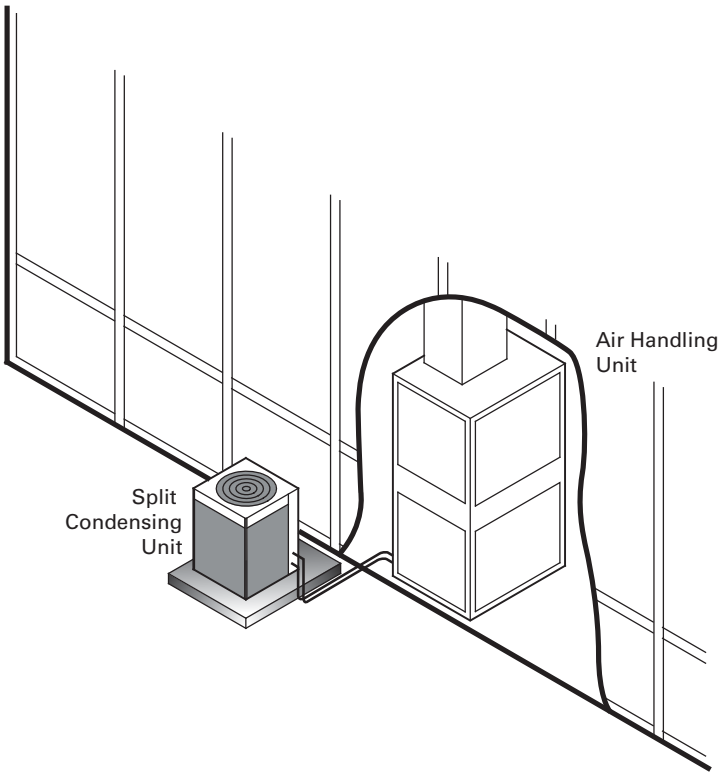


Figure 2. Typical Horizontal Air Handler Application

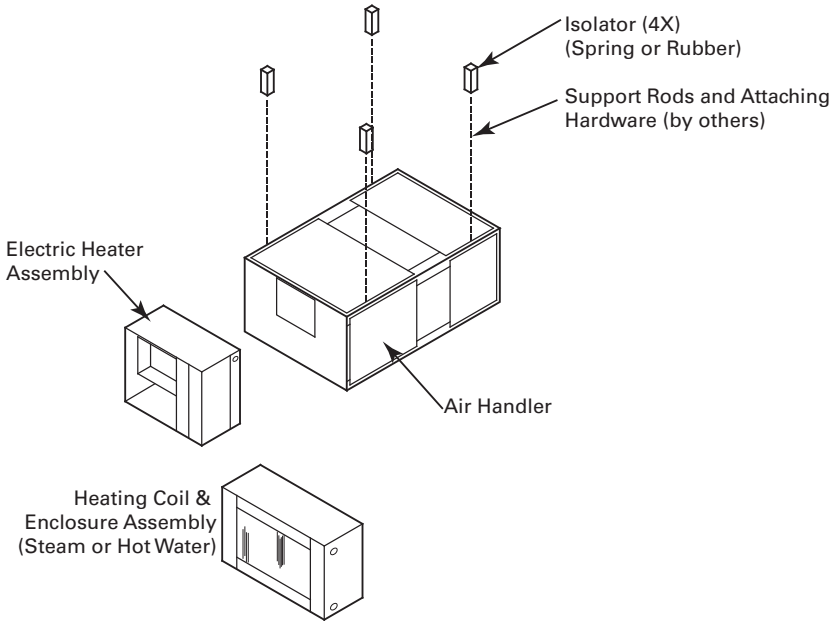
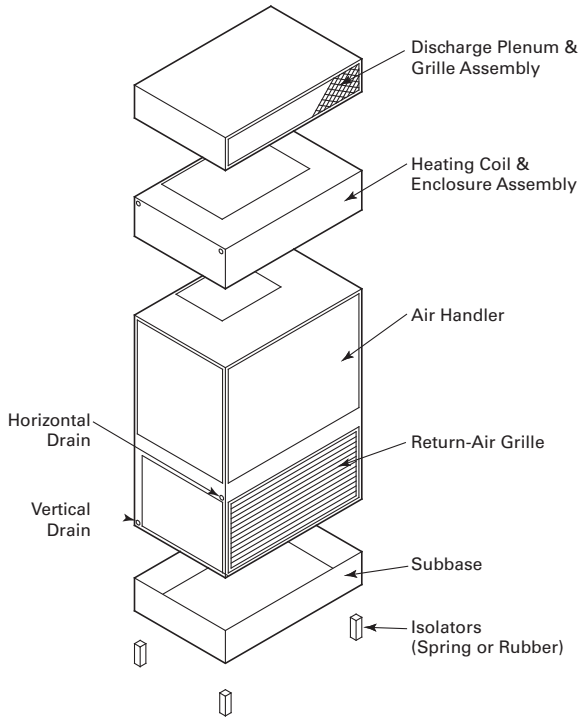


Figure 3. Typical Vertical Air Handler Application



Selection Procedure

Cooling Capacity

1. Calculate the building's total and sensible cooling loads at design conditions. Use the Trane calculation form or any other standard accepted method.
2. Size the equipment using Table 7, p. 26 to Table 17, p. 36. Match the cooling loads at design conditions.

Example: The following are the building cooling requirements:

a. Electrical Characteristics: 460/60/3

b. Summer Design Conditions:
Entering Evaporator Coil: 80°F DB/67°F WB, Outdoor Ambient: 95°F

c. Total Cooling Load: 86 MBh

d. Sensible Cooling Load: 60 MBh

e. Airflow: 3000 cfm
External Static Pressure: 0.77 inches of water gauge

Table 7, p. 26 shows that TTA090D with TWE090D has a gross cooling capacity of 94.8 MBh and 72.7 MBh sensible capacity at 95°F DB ambient and 3000 cfm with 80°F DB/67° F WB air entering the evaporator.

To find the net cooling capacities, fan motor heat must be subtracted. Determine the total unit static pressure:

External Static: 0.77 in.
Standard Filter: 0.10 in.
Supplementary Electric Heat: 0.23 in.
Total Static Pressure 1.10 in.

Note: *The Evaporator Fan Performance Table has included the effect of a 1 in. filter already. Therefore, the actual Total Static Pressure is 1.10 - 0.10 = 1.00 in.*
With 3000 cfm and 1.00 inches, Table 35, p. 54 shows 1.97 Bhp (high static drive kit required).

Note: *The formula below the table can be used to calculate Fan Motor Heat:*
3.15 X Bhp = MBh
3.15 X 1.97 = 6.2 MBh
Net Total Cooling Capacity = 94.8 MBh - 6.2 = 88.6 MBh
Net Sensible Cooling Capacity = 72.7 MBh - 6.2 = 66.5 MBh

Heating Capacity

1. Calculate the building heating load using the Trane calculation form or any other standard accepted method.
2. Size the system heating capacity to match the calculated building heating load. The following are building heating requirements:

a. Total Heating Load: 97.0 MBh

b. 3000 cfm

c. Electric Supplementary Heaters

From Table 47, p. 64, the 34.88 kW heater has a capacity of 119,045 Btuh. From Table 56, p. 78, the 34.88 kW at 460v indicates the heater model number is BAYHTRL435A. This heater will adequately cover the building's heating requirement.

Air Delivery Selection

External static pressure drop through the air distribution system has been calculated to be 0.77 inches of water gauge. From Table 46, p. 63 static pressure drop through the electric heater is 0.23 inches of water (0.77 + 0.23 = 1.00 in.). Enter Table 35, p. 54 for TWE090D at 3000 cfm and 1.00 static pressure. The high static motor at 1020 RPM will give the desired airflow.

Model Number Description

TTA	240	F	3	00	B	A
1 2 3	4 5 6	7	8	9 10	11	12

Model Number Description

All products are identified by a multiple-character model number that precisely identifies a particular type of unit. An explanation of the alphanumeric identification code is provided. Its use will enable the owner/operator, installing contractors, and service engineers to define the operation, specific components, and other options for any specific unit.

Note: *When ordering replacement parts or requesting service, be sure to refer to the specific model number, serial number, and DL number (if applicable) stamped on the unit nameplate.*

DIGITS 1 - 3: Product Type

TTA = Split System Cooling

DIGITS 4 - 6: Nominal Gross Cooling Capacity (MBh)

073 = 6 Tons
090 = 7½ Tons
120 = 10 Tons
150 = 12½ Tons
180 = 15 Tons
240 = 20 Tons

DIGIT 7: Major Development Sequence

D = Single Circuit
E = Dual Circuit
F = Manifold Scroll Compressors

DIGIT 8: Electrical Characteristics

3 = 208-230/60/3
4 = 460/60/3
W = 575/60/3
D = 380-415/50/3
K = 380/60/3

DIGITS 9 - 10: Factory Installed Options

00 = Packed Stock
0S = Black Epoxy Coated Coil
0R = ReliaTel, no LCI Board
0T = ReliaTel, no LCI Board with Black Epoxy Coated Coil
0U = ReliaTel, with LCI Board
0W = ReliaTel, with LCI Board and Black Epoxy Coated Coil
H0 = Hail Guard with Packed Stock
HS = Hail Guard with Black Epoxy Coated Coil
HR = Hail Guard with ReliaTel, no LCI Board
HT = Hail Guard with ReliaTel, no LCI Board with Black Epoxy Coated Coil
HU = Hail Guard with ReliaTel, with LCI Board
HW = Hail Guard with ReliaTel, with LCI Board and Black Epoxy Coated Coil

DIGITS 11: Minor Design Sequence

A & B = Current Design Sequence

DIGITS 12: Service Digit

A = Current Service Digit

TWE	120	E	4			
TWE	240	E	3	00	B	A
1 2 3	4 5 6	7	8	9 10	11	12

Model Number Description

All products are identified by a multiple-character model number that precisely identifies a particular type of unit. An explanation of the alphanumeric identification code is provided. Its use will enable the owner/operator, installing contractors, and service engineers to define the operation, specific components, and other options for any specific unit.

Note: *When ordering replacement parts or requesting service, be sure to refer to the specific model number, serial number, and DL number (if applicable) stamped on the unit nameplate.*

DIGITS 1 - 3: Product Type

TWE = Split System Heat Pump/Cooling Air Handler

DIGITS 4 - 6: Nominal Gross Cooling Capacity (MBh)

061 = 5 Tons
090 = 7½ Tons
120 = 10 Tons
150 = 12½ Tons
180 = 15 Tons
240 = 20 Tons

DIGIT 7: Major Development Sequence

D = Single Circuit
E = Dual Circuit

DIGIT 8: Electrical Characteristics

1 = 208-230/60/1	W = 575/60/3
3 = 208-230/60/3	D = 380-415/50/3
4 = 460/60/3	K = 380/60/3

DIGITS 9 - 10: Factory Installed Options

00 = Packed Stock

DIGITS 11: Minor Design Sequence

A & B = Current Design Sequence

DIGITS 12: Service Digit

A = Current Service Digit

General Data

Table 1. R-410A Combinations - 60 Hz

TWE061D	TWE061E	TWE090D	TWE090E	TWE120D	TWE120E	TWE150E	TWE180E	TWE240E
See Note	See Note	TTA073D TTA090D	See Note	TTA090D TTA120D	TTA120E	(2) TTA073D TTA150E	TTA180E TTA180F	(2) TTA120D (2) TTA120F
							(2) TTA090D	TTA180E TTA240E TTA240F

Note: See ComfortSite for more information on small outdoor unit combinations.

Table 2. General Data — 6-10 Ton Condensing Units — 60 Hz

	6 Tons	7½ Tons	10 Tons		
	Single Compressor TTA073D3, D4, DW	Single Compressor TTA090D3, D4, DW	Single Compressor TTA120D3, D4, DW	Dual Compressor TTA120E3, E4, EW	Manifolded Compressor TTA120F3, F4, FW
Cooling Performance					
Gross Cooling Capacity					
Matched Air Handler	77,000	94,000	124,000	122,000	123,000
Condensing Unit Only	74,000	90,000	112,000	110,000	114,000
ARI Net Cooling Capacity	75,000	92,000	120,000	119,000	120,000
Efficiency					
Matched Air Handler (EER)	11.2	11.2	11.2	11.2	11.2
Condensing Unit Only (EER)	12.5	12.4	12.2	12.2	12.2
System Integrated Part Load Value (IPLV)	N/A	N/A	N/A	12.0	14.5
System (IEER)	13.0	12.2	12.2	11.7	14.5
Condensing Unit Only (IPLV)	N/A	N/A	N/A	15.9	17.2
System kW/Condensing Unit kW	6.70/5.92	8.22/7.26	10.72/9.18	10.62/9.01	10.72/9.35
Compressor					
Type	Scroll	Scroll	Scroll	Scroll	Manifolded Scrolls
No./Tons	1/5.6	1/6.9	1/8.6	2/4.2	2/4.3
System Data					
No. Refrigerant Circuits	1	1	1	2	1
Suction Line (in.) OD	1 1/8	1 3/8	1 3/8	1 1/8	1 3/8
Liquid Line (in.) OD	1/2	5/8	1/2	1/2	1/2
Outdoor Coil - Type	Lanced	Lanced	Lanced	Lanced	Lanced
Tube Size (in.) OD	0.375	0.375	0.375	0.375	0.375
Face Area (sq ft)	19.2	19.2	24.0	24.0	24.0
Rows/FPI	2/18	2/18	2/18	2/18	2/18
Outdoor Fan - Type	Propeller	Propeller	Propeller	Propeller	Propeller
No. Used/Diameter (in.)	1/26	1/26	1/28	1/28	1/28
Drive Type/No. Speeds	Direct/1	Direct/1	Direct/1	Direct/1	Direct/1
CFM	6530	6530	9600	9600	9600
No. Motor/HP	1/0.5	1/0.5	1/1	1/1	1/1
Motor RPM	1100	1100	1100	1100	1100
Refrigerant Charge (Field Supplied)					
(lbs of R410A)	15.7	17.6	22.5	24.8	21.2
Shipping Dimensions (HxWxD)	43.54″ x 43″ x 36.5″	43.54″ x 43″ x 36.5″	43.49″ x 53″ x 40.5″		

General Data

Table 3. General Data — 12½ - 20 Ton Condensing Units — 60 Hz

	12½ Tons	15 Tons		20 Tons	
	Dual Compressor TTA150E3, E4, EW	**Dual Compressor TTA180E3, E4, EW**	**Manifolded Compressor TTA180F3, F4, FW**	**Dual Compressor TTA240E3, E4, EW**	**Manifolded Compressor TTA240F3, F4, FW**
Cooling Performance					
Gross Cooling Capacity					
Matched Air Handler	154,000	185,000	186,000	263,000	254,000
Condensing Unit Only	144,000	178,000	182,000	270,000	266,000
ARI Net Cooling Capacity	150,000	180,000	180,000	254,000	246,000
Efficiency					
Matched Air Handler (EER)	11.0	11.0	11.0	10.0	10.0
Condensing Unit Only (EER)	11.7	12.6	12.8	12.1	12.0
System Integrated Part Load Value (IPLV)	13.4	13.2	13.4	11.2	12.0
System (IEER)	13.2	12.9	12.5	10.9	11.9
Condensing Unit Only (IPLV)	15.9	17.3	15.9	15.9	16.0
System kW/ Condensing Unit (kW)	13.63/12.31	16.36/14.13	16.37/14.22	25.40/22.32	24.6/22.17
Compressor					
Type	Scroll	Scroll	Manifolded Scrolls	Scroll	Manifolded Scroll
No./Tons	2/5.6	2/6.9	2/6.9	2/10.1	2/10.1
System Data					
No. Refrigerant Circuits	2	2	1	2	1
Suction Line (in.) OD	1 1/8	1 3/8	1 5/8	1 3/8	1 5/8
Liquid Line (in.) OD	1/2	1/2	5/8	1/2	5/8
Outdoor Coil - Type	Lanced	Lanced	Lanced	Lanced	Lanced
Tube Size (in.) OD	0.375	0.375	0.375	0.375	0.375
Face Area (sq ft)	30.6	52.6	52.6	52.6	52.6
Rows/FPI	2/18	2/18	2/18	2/18	2/18
Outdoor Fan - Type	Propeller	Propeller	Propeller	Propeller	Propeller
No. Used/Diameter (in.)	1/28	2/28	2/28	2/28	2/28
Drive Type/No. Speeds	Direct/1	Direct/1	Direct/1	Direct/1	Direct/1
CFM	9800	19500	19500	19500	19500
No. Motor/HP	1/1	2/1	2/1	2/1	2/1
Motor RPM	1100	1100	1100	1100	1100
Refrigerant Charge (Field Supplied)					
(lbs of R410A)	30.7	39	37.6	43.8	41.3
Shipping Dimensions (HxWxD)	49.48″ x 53.25″ x 41″	49.48″ x 94.75″ x 47″		49.48″ x 94.75″ x 47″	

Table 4. General Data — 5-10 Ton Air Handler — 60 Hz

	5 Tons		7½ Tons		10 Tons			
	Single Circuit TWE061D1, D3, D4, DW, DK	**Dual Circuit, TWE061E1, E3, E4**	**Single Circuit TWE090D1, D3, DW**	**Dual Circuit, TWE090E1, E3**	**Single Circuit TWE120D1**	**Single Circuit, TWE120D3, DW, DK**	**Dual Circuit, TWE120E1**	**Dual Circuit, TWE120E3, EW, EK**
System Data								
No. Refrigerant Circuits	1	2	1	2	1	1	2	2
Suction Line Connection (in.) OD	1 1/8	1 1/8	1 3/8	1 1/8	1 3/8	1 3/8	1 1/8	1 1/8
Liquid Line Connection (in.) OD	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Indoor Coil - Type	Lanced	Lanced	Lanced	Lanced	Lanced	Lanced	Lanced	Lanced
Tube Size (in.)	0.375	0.375	0.375	0.375	0.375	0.375	0.375	0.375
Face Area (sq. ft.)	5.0	5.0	8.1	8.1	11.2	11.2	11.2	11.2
Rows/FPI	4/14	4/14	4/14	4/14	4/14	4/14	4/14	4/14
Refrigerant Control	Expansion Valve	Expansion Valve	Expansion Valve	Expansion Valve	Expansion Valve	Expansion Valve	Expansion Valve	Expansion Valve
Drain Connection Size (in.)	1 PVC	1 PVC	1 PVC	1 PVC	1 PVC	1 PVC	1 PVC	1 PVC
Indoor Fan - Type	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal
No. Used/Diameter x Width (in.)	1/12 x 12	1/12 x 12	1/15 x 15	1/15 x 15	1/15 x 15	1/15 x 15	1/15 x 15	1/15 x 15
Drive Type/ No. Speeds	Belt/ Adjustable	Belt/ Adjustable	Belt/ Adjustable	Belt/ Adjustable	Belt/ Adjustable	Belt/ Adjustable	Belt/ Adjustable	Belt/ Adjustable
CFM	2000	2000	3000	3000	4000	4000	4000	4000
No. Motors	1	1	1	1	1	1	1	1
Motor HP - Standard/Oversized	0.75/1.0	0.75/1.0	1.5/2.0/3.0	1.5/2.0/3.0	2.0	2.0/3.0	2.0	2.0/3.0
Motor RPM	1725	1725	1725	1725	1725	1725	1725	1725
Motor Frame Size	56	56	56H	56H	56HZ	56HZ	56HZ	56HZ
Filters - Type/ Furnished	Throwaway/ Yes	Throwaway/ Yes	Throwaway/ Yes	Throwaway/ Yes	Throwaway/ Yes	Throwaway/ Yes	Throwaway/ Yes	Throwaway/ Yes
(No.)/Size Recommended	(1) 16 x 20 x 1 (1) 20 x 20 x 1	(1) 16 x 20 x 1 (1) 20 x 20 x 1	(3) 16 X 25 X 1	(3) 16 X 25 X 1	(4) 16 X 25 X 1	(4) 16 X 25 X 1	(4) 16 X 25 X 1	(4) 16 X 25 X 1
Shipping Dimensions (HxWxD)								

Table 5. General Data — 12½ - 20 Ton Air Handler — 60 Hz

	12½ Tons	15 Tons	20 Tons
	Dual Circuit, TWE150E3, EW, EK	**Dual Circuit, TWE180E3, EW, EK**	**Dual Circuit, TWE240E3, E4, EW, EK**
System Data			
No. Refrigerant Circuits	2	2	2
Suction Line Connection (in.) OD	1 3/8	1 3/8	1 3/8
Liquid Line Connection (in.) OD	1/2	1/2	5/8
Indoor Coil - Type	Lanced	Lanced	Lanced
Tube Size (in.)	0.375	0.375	0.375
Face Area (sq. ft.)	16.3	16.3	21.7
Rows/FPI	4/14	4/14	3/14
Refrigerant Control	Expansion Valve	Expansion Valve	Expansion Valve
Drain Connection Size (in.)	1 PVC	1 PVC	1 PVC
Indoor Fan - Type	Centrifugal	Centrifugal	Centrifugal
No. Used/Diameter x Width (in.)	2/15 x 15	2/15 x 15	2/15 x 15
Drive Type/No. Speeds	Belt/Adjustable	Belt/Adjustable	Belt/Adjustable
CFM	5000	6000	8000
No. Motors	1	1	1
Motor HP - Standard/Oversized	2.0/3.0/5.0	3.0/5.0	3.0/5.0/7.5
Motor RPM	1755	1728/1750	1750/3470
Motor Frame Size	145T	56HZ	184T
Filters - Type/Furnished	Throwaway/Yes	Throwaway/Yes	Throwaway/Yes
(No.)/Size Recommended	(8) 15 X 20 X 2	(8) 15 X 20 X 2	(4) 16 X 25 X 2 (4) 16 X 20 X 2
Shipping Dimensions (HxWxD)			

Performance Data

Table 6. Gross Cooling Capacities (MBH) 6 Tons TTA073D Condensing Unit with 7.5 Tons TWE090D Air Handler (IP)

		Ambient Temperature (°F)																	
		85						95						105					
	Ent DB	Entering Wet Bulb (°F)																	
		61		67		73		61		67		73		61		67		73	
CFM	(°F)	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
2160	75	72.1	59.9	78.9	46.4	86.3	31.8	68.3	58.1	75.1	44.9	82.2	30.3	64.6	56.3	71.1	43.2	77.8	28.8
	80	72.7	70.7	79.2	56.9	86.7	42.9	69.4	69.1	75.4	55.2	82.5	41.3	66.0	66.0	71.3	53.6	78.1	39.7
	85	75.9	75.9	79.5	67.5	86.9	53.6	72.9	72.9	75.7	65.9	82.8	52.1	69.7	69.7	71.8	64.1	78.4	50.4
	90	79.8	79.8	80.5	78.3	87.1	64.3	76.7	76.7	76.9	76.7	83.0	62.7	73.3	73.3	73.3	73.3	78.6	61.1
2400	75	73.4	63.0	80.1	48.5	87.4	32.3	69.5	61.2	76.3	46.9	83.1	30.8	65.8	59.4	72.1	45.3	78.7	29.3
	80	74.3	74.3	80.4	59.8	87.9	44.4	71.2	71.2	76.5	58.1	83.6	42.9	68.0	68.0	72.4	56.5	79.1	41.3
	85	78.3	78.3	80.9	71.3	88.2	56.2	75.1	75.1	77.1	69.7	83.9	54.7	71.7	71.7	73.0	68.0	79.4	53.0
	90	82.3	82.3	82.3	82.3	88.4	68.0	79.0	79.0	79.0	79.0	84.1	66.1	75.5	75.5	75.5	75.5	79.6	64.4
2640	75	74.6	66.0	81.2	50.6	88.2	32.8	70.6	64.2	77.2	49.0	83.9	31.3	66.8	62.4	73.0	47.3	79.4	29.8
	80	76.2	76.2	81.3	62.3	88.9	46.0	73.0	73.0	77.4	60.7	84.5	44.4	69.6	69.6	73.2	59.0	80.0	42.8
	85	80.4	80.4	82.1	75.0	89.2	58.8	77.0	77.0	78.2	73.4	84.9	57.2	73.5	73.5	74.2	71.7	80.3	55.6
	90	84.5	84.5	84.4	84.4	89.5	71.1	81.0	81.0	81.0	81.0	85.1	69.5	77.4	77.4	77.3	77.3	80.6	67.8
2880	75	75.6	68.9	82.0	52.6	89.0	33.3	71.5	67.1	78.0	51.0	84.6	31.8	67.7	65.3	73.7	49.3	80.0	30.3
	80	77.9	77.9	82.3	64.9	89.7	47.4	74.6	74.6	78.2	63.3	85.3	45.9	71.1	71.1	74.0	61.5	80.7	44.2
	85	82.1	82.1	83.3	78.7	90.1	61.3	78.7	78.7	79.4	77.1	85.7	59.7	75.1	75.1	75.0	75.0	80.9	57.7
	90	86.4	86.4	86.4	86.4	90.5	74.4	82.8	82.8	82.7	82.7	86.1	72.8	79.0	79.0	79.0	79.0	81.5	71.1

		Ambient Temperature (°F)											
		115						125					
	Ent DB	Entering Wet Bulb (°F)											
		61		67		73		61		67		73	
CFM	(°F)	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
2160	75	60.7	54.5	66.8	41.5	73.1	27.1	56.5	52.6	62.1	39.6	68.0	25.4
	80	62.6	62.6	67.0	51.8	73.5	38.0	58.9	58.9	62.4	49.9	68.3	36.2
	85	66.2	66.2	67.6	62.4	73.7	48.7	62.3	62.3	63.0	60.4	68.5	46.9
	90	69.7	69.7	69.7	69.7	73.9	59.2	65.7	65.7	65.7	65.7	68.8	57.3
2400	75	61.8	57.6	67.7	43.5	73.9	27.6	57.5	55.6	62.9	41.7	68.7	25.9
	80	64.4	64.4	67.9	54.5	74.4	39.6	60.5	60.5	63.2	52.5	69.1	37.7
	85	68.1	68.1	68.8	66.2	74.6	51.3	64.0	64.0	64.0	64.0	69.3	49.5
	90	71.7	71.7	71.7	71.7	74.9	62.7	67.5	67.5	67.5	67.5	69.7	60.7
2640	75	62.8	60.6	68.5	45.6	74.6	28.1	58.3	58.3	63.6	43.7	69.3	26.4
	80	65.9	65.9	68.8	57.1	75.1	41.1	61.9	61.9	63.9	55.2	69.7	39.2
	85	69.7	69.7	69.7	69.7	75.4	53.9	65.5	65.5	65.5	65.5	69.9	51.7
	90	73.5	73.5	73.4	73.4	75.8	66.0	69.1	69.1	69.0	69.0	70.5	64.1
2880	75	63.7	63.5	69.1	47.6	75.2	28.6	59.5	59.5	64.1	45.7	69.8	26.8
	80	67.3	67.3	69.5	59.7	75.7	42.5	63.2	63.2	64.6	57.7	70.3	40.7
	85	71.1	71.1	71.1	71.1	75.9	55.9	66.8	66.8	66.8	66.8	70.5	54.0
	90	74.9	74.9	75.0	75.0	76.6	69.3	70.4	70.4	70.4	70.4	71.3	67.4

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

Performance Data

Table 7. Gross Cooling Capacities (MBH) 7.5 Tons TTA090D Condensing Unit with 7.5 Tons TWE090D Air Handler (IP)

		Ambient Temperature (°F)																	
		85						95						105					
	Ent DB	Entering Wet Bulb (°F)																	
		61		67		73		61		67		73		61		67		73	
CFM	(°F)	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
2700	75	89.1	74.8	96.9	58.0	105.8	38.9	84.6	72.6	92.5	56.2	101.0	37.2	80.3	70.6	87.8	54.3	95.8	35.5
	80	89.8	88.5	97.1	70.7	105.9	52.8	85.9	85.9	92.7	68.8	101.1	51.0	82.2	82.2	88.0	66.9	96.0	49.2
	85	93.9	93.9	97.5	84.2	106.0	66.3	90.3	90.3	93.2	82.3	101.2	64.6	86.5	86.5	88.6	80.3	96.1	62.7
	90	98.4	98.4	98.9	97.9	106.1	79.8	94.7	94.7	94.7	94.7	101.4	78.1	90.7	90.7	90.7	90.7	96.3	76.2
3000	75	90.6	78.7	98.3	60.6	107.1	39.6	85.9	76.4	93.8	58.8	102.1	37.9	81.6	74.4	88.9	56.9	96.9	36.1
	80	91.8	91.8	98.5	74.2	107.2	54.7	88.2	88.2	94.8	72.7	102.3	52.9	84.4	84.4	89.1	70.4	97.1	51.0
	85	96.5	96.5	99.1	88.9	107.3	69.5	92.8	92.8	95.5	87.4	102.4	67.7	88.8	88.8	90.0	85.0	97.2	65.9
	90	101.2	101.2	101.1	101.1	107.5	84.3	97.3	97.3	97.3	97.3	102.7	82.5	93.2	93.2	93.1	93.1	97.5	80.4
3300	75	91.9	82.3	99.4	63.3	108.1	40.2	87.2	80.1	94.8	61.4	103.1	38.5	82.8	78.1	89.9	59.5	97.8	36.7
	80	94.0	94.0	99.6	77.6	108.3	56.5	90.2	90.2	94.9	75.5	103.3	54.7	86.2	86.2	90.1	73.5	98.0	52.9
	85	98.8	98.8	100.5	93.5	108.5	72.6	94.9	94.9	96.0	91.6	103.5	70.8	90.7	90.7	91.3	89.6	98.1	68.9
	90	103.6	103.6	103.5	103.5	108.7	88.4	99.5	99.5	99.5	99.5	103.8	86.5	95.2	95.2	95.2	95.2	98.6	84.6
3600	75	93.1	85.9	100.4	65.8	109.0	40.9	88.3	83.7	95.7	64.0	103.9	39.2	83.8	81.6	90.7	62.1	98.5	37.4
	80	95.9	95.9	100.6	80.6	109.2	58.3	92.0	92.0	95.9	78.7	104.2	56.5	87.8	87.8	91.0	76.7	98.8	54.6
	85	100.8	100.8	101.8	97.9	109.4	75.6	96.8	96.8	97.3	96.1	104.3	73.8	92.5	92.5	92.4	92.4	98.9	71.9
	90	105.7	105.7	105.6	105.6	109.8	92.5	101.5	101.5	101.5	101.5	104.8	90.6	97.1	97.1	97.1	97.1	99.5	88.6

		Ambient Temperature (°F)											
		115						125					
	Ent DB	Entering Wet Bulb (°F)											
		61		67		73		61		67		73	
CFM	(°F)	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
2700	75	75.7	68.5	82.7	52.3	90.2	33.5	70.6	66.1	77.0	50.0	83.9	31.4
	80	78.1	78.1	82.9	64.8	90.4	47.2	73.5	73.5	77.2	62.5	84.1	45.0
	85	82.2	82.2	83.6	78.2	90.5	60.7	77.5	77.5	78.1	75.8	84.3	58.5
	90	86.4	86.4	86.3	86.3	90.8	74.2	81.4	81.4	81.3	81.3	84.6	71.7
3000	75	76.9	72.2	83.7	54.9	91.2	34.2	71.8	69.8	77.9	52.6	84.7	32.0
	80	80.1	80.1	83.9	68.1	91.4	49.0	75.3	75.3	78.1	65.7	85.0	46.8
	85	84.4	84.4	85.0	82.9	91.5	63.8	79.4	79.4	79.3	79.3	85.1	61.6
	90	88.6	88.6	88.5	88.5	91.9	78.3	83.4	83.4	83.4	83.4	85.6	75.9
3300	75	78.1	75.9	84.5	57.5	92.0	34.8	72.7	72.7	78.6	55.2	85.4	32.6
	80	81.8	81.8	84.8	71.3	92.2	50.9	76.9	76.9	79.0	68.9	85.7	48.6
	85	86.2	86.2	86.1	86.1	92.3	66.9	81.0	81.0	81.0	81.0	85.8	64.7
	90	90.5	90.5	90.5	90.5	92.9	82.5	85.1	85.1	85.1	85.1	86.5	80.1
3600	75	78.9	78.9	85.2	60.1	92.6	35.4	74.0	74.0	79.2	57.8	86.0	33.2
	80	83.3	83.3	85.7	74.5	92.9	52.6	78.2	78.2	79.7	72.1	86.3	50.4
	85	87.8	87.8	87.7	87.7	93.0	69.9	82.4	82.4	82.4	82.4	86.4	67.3
	90	92.2	92.2	92.2	92.2	93.8	86.5	86.6	86.6	86.6	86.6	87.4	84.1

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

Table 8. Gross Cooling Capacities (MBH) 7.5 Tons TTA090D Condensing Unit with 10 Tons TWE120D Air Handler (IP)

		Ambient Temperature (°F)																	
		85						95						105					
	Ent DB	Entering Wet Bulb (°F)																	
		61		67		73		61		67		73		61		67		73	
CFM	(°F)	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
3100	75	95.4	84.3	102.9	63.6	111.3	41.4	90.4	81.9	98.2	61.7	106.2	39.6	85.8	79.8	93.2	59.8	100.7	37.8
	80	97.1	97.1	103.1	79.2	111.9	58.1	93.3	93.3	98.4	77.2	106.8	56.3	89.1	89.1	93.5	75.1	101.4	54.4
	85	102.0	102.0	104.0	95.4	112.1	74.5	98.0	98.0	99.4	93.4	107.1	72.7	93.8	93.8	94.6	91.3	101.7	70.8
	90	106.9	106.9	106.8	106.8	112.4	90.1	102.8	102.8	102.7	102.7	107.5	88.2	98.4	98.4	98.3	98.3	102.2	86.2
3400	75	96.7	88.3	104.0	66.3	112.3	42.0	91.6	85.9	99.2	64.4	107.1	40.3	87.0	83.8	94.1	62.4	102.9	38.8
	80	99.3	99.3	104.3	82.8	112.9	60.2	95.3	95.3	100.6	81.3	107.8	58.4	91.0	91.0	94.5	78.7	102.3	56.5
	85	104.4	104.4	105.5	100.5	113.2	78.0	100.2	100.2	100.8	98.5	108.0	75.6	95.8	95.8	95.8	95.8	102.5	73.6
	90	109.3	109.3	109.2	109.2	113.6	94.7	105.1	105.1	105.0	105.0	108.6	92.8	100.5	100.5	100.5	100.5	103.2	90.8
3700	75	97.9	92.3	104.9	68.9	113.1	42.7	92.8	89.9	100.0	67.0	109.1	41.3	88.1	87.7	94.8	65.0	102.2	39.0
	80	101.2	101.2	105.3	86.3	113.8	62.2	97.1	97.1	100.5	84.3	108.6	60.4	92.7	92.7	95.4	82.2	103.1	58.5
	85	106.4	106.4	106.8	105.5	114.0	80.6	102.1	102.1	102.1	102.1	108.8	78.7	97.6	97.6	97.6	97.6	103.3	76.6
	90	111.4	111.4	111.3	111.3	114.7	99.2	107.1	107.1	107.1	107.1	109.7	97.4	102.4	102.4	102.4	102.4	104.2	95.3
4000	75	99.1	96.2	105.7	71.5	115.1	43.7	93.9	93.7	100.8	69.6	108.5	41.5	89.3	89.3	95.4	66.6	102.8	39.7
	80	102.9	102.9	106.3	89.8	114.6	64.2	98.7	98.7	101.4	87.7	109.3	62.4	94.2	94.2	96.2	85.6	103.7	60.5
	85	108.2	108.2	108.1	108.1	114.8	83.7	103.8	103.8	103.8	103.8	109.6	81.8	99.1	99.1	99.1	99.1	104.0	79.7
	90	113.2	113.2	113.2	113.2	115.6	103.7	108.8	108.8	108.8	108.8	110.6	101.8	104.0	104.0	104.0	104.0	105.1	99.7

		Ambient Temperature (°F)											
		115						125					
	Ent DB	Entering Wet Bulb (°F)											
		61		67		73		61		67		73	
CFM	(°F)	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
3100	75	81.0	77.4	87.7	57.6	94.8	35.8	75.6	74.9	81.6	55.3	88.1	33.5
	80	84.6	84.6	88.1	72.8	95.5	52.4	79.5	79.5	82.1	70.3	88.9	50.1
	85	89.1	89.1	89.4	89.1	95.7	68.2	83.8	83.8	83.8	83.8	89.1	65.7
	90	93.6	93.6	93.5	93.5	96.3	84.0	88.0	88.0	88.0	88.0	89.8	81.5
3400	75	82.1	81.4	88.5	60.3	95.5	36.4	76.8	76.8	82.3	57.9	88.8	34.2
	80	86.4	86.4	89.0	76.4	96.3	54.4	81.2	81.2	82.9	73.8	89.6	52.2
	85	91.0	91.0	91.0	91.0	96.5	71.3	85.5	85.5	85.5	85.5	89.9	68.8
	90	95.5	95.5	95.5	95.5	97.4	88.5	89.8	89.8	89.8	89.8	90.8	86.0
3700	75	83.3	83.3	89.2	62.9	96.2	37.0	78.1	78.1	82.8	59.4	89.1	37.2
	80	88.0	88.0	89.9	79.9	97.0	56.4	82.5	82.5	83.7	77.3	90.2	54.2
	85	92.6	92.6	92.6	92.6	97.3	74.4	86.9	86.9	86.9	86.9	90.5	71.8
	90	97.2	97.2	97.2	97.2	98.3	93.0	91.3	91.3	91.3	91.3	91.7	90.5
4000	75	84.5	84.5	89.7	64.3	96.7	37.6	79.2	79.2	83.3	61.6	89.6	35.4
	80	89.3	89.3	90.6	83.3	99.0	58.9	83.7	83.7	84.4	80.7	90.6	56.3
	85	94.0	94.0	94.0	94.0	98.0	77.4	88.2	88.2	88.2	88.2	91.1	74.8
	90	98.7	98.7	98.7	98.7	99.2	97.4	92.7	92.7	92.7	92.7	92.6	92.6

Notes:

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

Table 9. Gross Cooling Capacities (MBH) 10 Tons TTA120D Condensing Unit with 10 Tons TWE120D Air Handler (IP)

		Ambient Temperature (°F)																	
		85						95						105					
	Ent DB	Entering Wet Bulb (°F)																	
		61		67		73		61		67		73		61		67		73	
CFM	(°F)	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
3600	75	116.8	100.6	128.1	77.2	139.8	51.6	111.3	98.0	122.0	74.7	133.2	49.3	105.5	95.4	115.6	72.2	126.2	46.8
	80	118.8	118.8	128.4	95.4	140.2	70.8	114.1	114.1	122.3	92.9	133.6	68.4	109.0	109.0	115.9	90.2	126.6	65.9
	85	125.2	125.2	129.2	114.2	140.5	89.6	120.2	120.2	123.2	111.6	133.8	87.2	115.0	115.0	117.0	109.0	126.8	84.6
	90	131.5	131.5	131.4	131.4	140.9	108.4	126.4	126.4	126.3	126.3	134.2	106.0	120.9	120.9	120.8	120.8	127.2	103.2
4000	75	118.8	106.0	129.9	80.7	141.4	52.5	113.2	103.5	123.6	78.3	134.7	50.1	107.3	100.8	117.1	75.7	127.6	47.7
	80	122.2	122.2	130.2	100.5	141.9	73.5	117.3	117.3	124.0	97.9	135.1	71.1	111.9	111.9	117.4	95.1	128.0	68.5
	85	128.8	128.8	131.4	120.9	142.3	94.2	123.6	123.6	125.3	118.4	135.4	91.7	118.1	118.1	119.0	115.8	128.2	89.1
	90	135.3	135.3	135.2	135.2	142.7	114.4	129.9	129.9	129.8	129.8	135.9	111.9	124.1	124.1	124.0	124.0	128.9	109.3
4400	75	120.6	111.3	131.3	84.3	142.8	53.3	114.9	108.8	125.0	81.8	135.9	51.0	109.0	106.1	118.3	79.2	128.7	48.5
	80	125.1	125.1	131.7	105.0	143.4	76.1	119.9	119.9	125.4	102.4	136.4	73.7	114.5	114.5	118.8	99.8	129.2	71.1
	85	131.9	131.9	133.4	127.5	143.7	98.6	126.5	126.5	127.3	125.0	136.7	96.1	120.8	120.8	120.7	120.7	129.4	93.6
	90	138.5	138.5	138.5	138.5	144.4	120.4	132.9	132.9	132.8	132.8	137.5	117.9	126.9	126.9	126.9	126.9	130.3	115.3
4800	75	122.2	116.5	132.6	87.8	143.9	54.2	116.5	114.0	126.1	85.3	136.9	51.8	110.2	110.2	119.3	82.7	129.6	49.4
	80	127.7	127.7	133.1	109.6	144.6	78.7	122.3	122.3	126.7	107.0	137.5	76.2	116.7	116.7	120.0	104.4	130.1	73.7
	85	134.6	134.6	135.2	134.0	144.9	103.0	129.0	129.0	128.9	128.9	137.8	100.5	123.1	123.1	123.0	123.0	130.4	97.5
	90	141.4	141.4	141.3	141.3	145.8	126.2	135.5	135.5	135.5	135.5	138.9	123.8	129.4	129.4	129.3	129.3	131.6	121.2

		Ambient Temperature (°F)											
		115						125					
	Ent	Entering Wet Bulb (°F)											
	DB	61		67		73		61		67		73	
CFM	(°F)	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
3600	75	99.3	92.5	108.8	69.4	118.8	44.2	92.6	89.5	101.2	66.5	110.7	41.5
	80	103.5	103.5	109.1	87.5	119.1	63.2	97.4	97.4	101.7	84.5	111.0	60.4
	85	109.3	109.3	110.3	106.3	119.3	81.9	103.0	103.0	102.9	102.9	111.1	79.0
	90	115.0	115.0	114.9	114.9	119.8	100.4	108.4	108.4	108.3	108.3	111.8	97.5
4000	75	101.1	98.0	110.1	73.0	120.0	45.1	94.1	94.1	102.4	70.0	111.7	42.3
	80	106.2	106.2	110.5	92.3	120.4	65.9	99.9	99.9	102.9	89.2	112.0	63.0
	85	112.1	112.1	112.1	112.1	120.6	86.4	105.5	105.5	105.5	105.5	112.3	83.6
	90	117.9	117.9	117.9	117.9	121.4	106.6	111.1	111.1	111.1	111.1	113.2	103.7
4400	75	102.4	102.4	111.1	76.5	121.0	45.9	96.1	96.1	103.3	73.5	112.6	43.2
	80	108.5	108.5	111.8	97.0	121.4	68.5	102.0	102.0	104.1	94.0	112.9	65.6
	85	114.6	114.6	114.5	114.5	121.7	90.9	107.7	107.7	107.7	107.7	113.2	87.7
	90	120.5	120.5	120.5	120.5	122.7	112.6	113.4	113.4	113.4	113.4	114.5	109.7
4800	75	104.3	104.3	112.0	79.9	121.8	46.8	97.8	97.8	104.1	76.9	113.3	44.0
	80	110.6	110.6	112.9	101.6	122.3	71.0	103.8	103.8	105.1	98.6	113.7	68.1
	85	116.7	116.7	116.6	116.6	122.6	94.7	109.6	109.6	109.5	109.5	114.1	91.7
	90	122.7	122.7	122.7	122.7	124.0	118.5	115.4	115.4	115.3	115.3	115.7	115.6

Notes:

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

Table 10. Gross Cooling Capacities (MBH) 10 Tons TTA120E Condensing Unit with 10 Tons TWE120E Air Handler (IP)

		Ambient Temperature (°F)																	
		85						95						105					
	Ent DB	Entering Wet Bulb (°F)																	
		61		67		73		61		67		73		61		67		73	
CFM	(°F)	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
3600	75	116.0	99.6	127.4	77.3	139.2	51.3	110.2	96.9	121.0	74.8	132.2	48.9	104.1	94.0	114.2	72.1	124.9	46.3
	80	118.2	116.8	127.6	94.3	139.4	70.1	112.8	112.8	121.2	91.6	132.3	67.5	107.4	107.4	114.4	88.9	125.0	64.9
	85	124.0	124.0	128.2	113.0	139.5	88.6	118.8	118.8	121.8	110.3	132.4	85.9	113.3	113.3	115.2	107.5	125.1	83.3
	90	130.2	130.2	130.6	129.2	139.8	107.1	124.8	124.8	124.7	124.7	132.7	104.5	119.0	119.0	119.0	119.0	125.4	101.7
4000	75	118.0	104.9	129.1	81.0	140.9	52.2	112.0	102.2	122.5	78.4	133.7	49.8	105.8	99.3	115.6	75.7	126.2	47.2
	80	121.1	121.1	129.4	99.2	141.1	72.7	115.9	115.9	122.8	96.4	133.8	70.1	110.3	110.3	115.9	93.6	126.3	67.4
	85	127.5	127.5	130.3	119.6	141.2	92.9	122.0	122.0	123.8	117.0	134.0	90.3	116.3	116.3	116.2	116.2	126.5	87.6
	90	133.9	133.9	133.8	133.8	141.5	113.1	128.2	128.2	128.1	128.1	134.3	110.5	122.1	122.1	122.1	122.1	126.9	107.7
4400	75	119.7	110.1	130.6	84.6	142.3	53.1	113.7	107.4	123.8	81.9	134.9	50.6	106.5	106.5	116.8	79.2	127.3	48.1
	80	124.0	124.0	130.9	103.8	142.5	75.2	118.5	118.5	124.2	101.1	135.1	72.6	112.7	112.7	117.1	98.2	127.5	69.9
	85	130.6	130.6	132.2	126.1	142.6	97.1	124.9	124.9	124.8	124.8	135.3	94.5	118.9	118.9	119.2	117.6	127.6	91.8
	90	137.0	137.0	137.0	137.0	143.0	118.9	131.1	131.1	131.1	131.1	135.8	116.3	124.9	124.9	124.8	124.8	128.3	113.6
4800	75	121.2	115.2	131.8	88.1	143.4	54.0	114.3	114.3	125.0	85.5	136.0	51.5	108.6	108.6	117.8	82.8	128.2	48.9
	80	126.5	126.5	132.2	108.3	143.6	77.6	120.8	120.8	125.4	105.5	136.2	75.0	114.9	114.9	118.3	102.7	128.4	72.3
	85	133.2	133.2	133.1	133.1	143.8	101.2	127.3	127.3	127.7	125.9	136.4	98.7	121.1	121.1	121.0	121.0	128.6	95.9
	90	139.8	139.8	139.7	139.7	144.2	124.6	133.6	133.6	133.6	133.6	137.1	122.1	127.2	127.2	127.2	127.2	129.5	119.3

		Ambient Temperature (°F)											
		115						125					
	Ent DB	Entering Wet Bulb (°F)											
		61		67		73		61		67		73	
CFM	(°F)	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
3600	75	97.6	91.0	107.0	69.2	117.1	43.7	90.6	87.9	99.2	66.2	108.7	40.8
	80	101.7	101.7	107.2	86.0	117.2	62.1	95.3	95.3	99.5	82.8	108.8	59.1
	85	107.3	107.3	108.3	104.7	117.3	80.5	100.8	100.8	101.1	99.7	108.9	77.5
	90	112.9	112.9	112.8	112.8	117.6	98.9	106.1	106.1	106.0	106.0	109.4	95.8
4000	75	99.3	96.4	108.2	72.8	118.3	44.5	92.1	92.1	100.3	69.8	109.7	41.7
	80	104.3	104.3	108.6	90.7	118.4	64.6	97.7	97.7	100.7	87.5	109.8	61.7
	85	110.1	110.1	110.4	108.8	118.5	84.8	103.3	103.3	103.2	103.2	110.0	81.9
	90	115.7	115.7	115.7	115.7	119.1	104.9	108.7	108.7	108.6	108.6	110.7	101.9
4400	75	100.6	100.6	109.3	76.4	119.3	45.4	94.0	94.0	101.2	73.3	110.6	42.6
	80	106.5	106.5	109.7	95.3	119.4	67.1	99.7	99.7	101.8	92.1	110.7	64.1
	85	112.4	112.4	112.3	112.3	119.5	89.0	105.4	105.4	105.3	105.3	110.9	85.9
	90	118.2	118.2	118.1	118.1	120.4	110.8	110.9	110.9	110.9	110.9	112.0	107.8
4800	75	102.4	102.4	110.1	79.9	120.1	46.3	95.6	95.6	101.9	76.9	111.3	43.4
	80	108.5	108.5	110.8	99.8	120.2	69.5	101.5	101.5	102.8	96.6	111.4	66.5
	85	114.4	114.4	114.4	114.4	120.4	93.0	107.2	107.2	107.1	107.1	111.7	90.0
	90	120.3	120.3	120.3	120.3	121.6	116.5	112.8	112.8	112.8	112.8	112.7	112.7

Notes:

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

Table 11. Gross Cooling Capacities (MBH) One Compressor - 10 Tons TTA120F Condensing Unit with 10 Tons TWE120D Air Handler (IP)

		Ambient Temperature (°F)																	
		85						95						105					
	Ent DB	Entering Wet Bulb (°F)																	
		61		67		73		61		67		73		61		67		73	
CFM	(°F)	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
3600	75	69.9	69.9	74.1	56.2	81.1	31.8	66.3	66.3	69.7	54.7	76.6	30.3	62.5	62.5	65.3	53.1	71.7	28.8
	80	74.4	74.4	75.1	72.2	81.5	49.7	70.7	70.7	70.9	70.7	76.8	48.1	66.7	66.7	66.7	66.7	71.9	46.4
	85	78.9	78.9	78.9	78.9	81.9	67.2	75.0	75.0	75.0	75.0	77.2	65.7	70.9	70.9	70.9	70.9	72.4	64.1
	90	83.4	83.4	83.3	83.3	83.3	83.3	79.3	79.3	79.2	79.2	79.2	79.2	75.0	75.0	75.0	75.0	74.9	74.9
4000	75	71.3	71.3	74.7	59.5	81.7	32.7	67.6	67.6	70.3	58.0	77.1	31.2	63.7	63.7	65.8	56.5	72.2	29.6
	80	75.9	75.9	75.9	75.9	82.1	51.8	72.1	72.1	72.0	72.0	77.4	50.5	68.0	68.0	68.0	68.0	72.4	48.8
	85	80.5	80.5	80.5	80.5	82.6	71.1	76.4	76.4	76.4	76.4	77.9	69.6	72.2	72.2	72.2	72.2	73.1	68.1
	90	85.0	85.0	85.0	85.0	85.0	85.0	80.8	80.8	80.7	80.7	80.7	80.7	76.3	76.3	76.3	76.3	76.2	76.2
4400	75	72.5	72.5	75.3	62.7	82.2	33.5	68.6	68.6	70.9	61.3	77.6	32.0	64.6	64.6	66.3	59.9	72.6	30.5
	80	77.2	77.2	77.2	77.2	82.6	53.9	73.2	73.2	73.2	73.2	77.8	52.5	69.0	69.0	69.0	69.0	72.8	50.9
	85	81.8	81.8	81.8	81.8	83.3	74.9	77.7	77.7	77.6	77.6	78.5	73.5	73.3	73.3	73.3	73.3	73.7	72.0
	90	86.4	86.4	86.4	86.4	86.3	86.3	82.0	82.0	82.0	82.0	82.0	82.0	77.4	77.4	77.4	77.4	77.4	77.4
4800	75	73.5	73.5	75.8	66.0	82.6	33.7	69.6	69.6	71.3	64.6	77.9	32.9	65.5	65.5	66.7	63.2	72.9	31.3
	80	78.3	78.3	78.2	78.2	83.0	56.0	74.2	74.2	74.2	74.2	78.2	54.5	69.9	69.9	69.9	69.9	73.1	53.0
	85	83.0	83.0	82.9	82.9	83.9	78.6	78.7	78.7	78.7	78.7	79.1	77.2	74.2	74.2	74.2	74.2	74.2	74.2
	90	87.6	87.6	87.6	87.6	87.5	87.5	83.1	83.1	83.1	83.1	83.1	83.1	78.4	78.4	78.4	78.4	78.4	78.4

		Ambient Temperature (°F)											
		115						125					
	Ent DB	Entering Wet Bulb (°F)											
		61		67		73		61		67		73	
CFM	(°F)	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
3600	75	58.5	58.5	60.6	51.5	66.7	27.2	54.2	54.2	55.6	49.7	61.3	25.5
	80	62.5	62.5	62.5	62.5	66.8	44.7	58.0	58.0	58.0	58.0	61.4	42.9
	85	66.5	66.5	66.5	66.5	67.4	62.5	61.9	61.9	61.9	61.9	62.2	60.8
	90	70.4	70.4	70.4	70.4	70.3	70.3	65.6	65.6	65.6	65.6	65.5	65.5
4000	75	59.5	59.5	61.1	54.9	67.1	28.0	55.1	55.1	56.1	53.2	61.6	26.3
	80	63.7	63.7	63.6	63.6	67.2	47.1	59.0	59.0	59.0	59.0	61.8	45.2
	85	67.7	67.7	67.7	67.7	68.1	66.5	62.9	62.9	62.9	62.9	62.9	62.9
	90	71.6	71.6	71.6	71.6	71.5	71.5	66.6	66.6	66.6	66.6	66.6	66.6
4400	75	60.4	60.4	61.5	58.3	67.4	28.8	55.9	55.9	56.5	56.5	62.0	27.2
	80	64.6	64.6	64.6	64.6	67.6	49.2	59.9	59.9	59.9	59.9	62.2	47.5
	85	68.7	68.7	68.7	68.7	68.6	68.6	63.8	63.8	63.8	63.8	63.8	63.8
	90	72.6	72.6	72.6	72.6	72.6	72.6	67.5	67.5	67.5	67.5	67.5	67.5
4800	75	61.2	61.2	61.9	61.7	67.7	29.7	56.5	56.5	56.9	55.2	62.2	28.0
	80	65.4	65.4	65.4	65.4	67.9	51.4	60.6	60.6	60.6	60.6	62.4	49.6
	85	69.5	69.5	69.5	69.5	69.5	69.5	64.6	64.6	64.6	64.6	64.5	64.5
	90	73.5	73.5	73.5	73.5	73.5	73.5	68.2	68.2	68.2	68.2	68.2	68.2

Notes:

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

Table 12. Gross Cooling Capacities (MBH) Both Compressors - 10 Tons TTA120F Condensing Unit with 10 Tons TWE120D Air Handler (IP)

		Ambient Temperature (°F)																	
		85						95						105					
	Ent DB	Entering Wet Bulb (°F)																	
		61		67		73		61		67		73		61		67		73	
CFM	(°F)	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
3600	75	116.2	99.0	128.2	77.3	140.8	51.8	110.5	96.3	121.9	74.8	133.8	49.4	104.6	93.4	115.3	72.1	126.6	46.9
	80	118.2	117.9	128.4	94.1	140.9	70.4	112.9	112.9	122.1	91.4	134.0	67.9	107.8	107.8	115.5	88.7	126.7	65.2
	85	124.2	124.2	128.9	112.4	141.1	88.7	119.2	119.2	122.8	109.7	134.1	86.1	113.8	113.8	116.3	106.9	126.9	83.4
	90	130.7	130.7	130.6	130.6	141.3	106.9	125.4	125.4	125.4	125.4	134.3	104.2	119.9	119.9	119.8	119.8	127.1	101.6
4000	75	118.2	104.1	130.1	81.0	142.6	52.8	112.5	101.4	123.6	78.4	135.5	50.3	106.4	98.6	116.8	75.7	128.0	47.8
	80	121.2	121.2	130.3	98.8	142.7	73.0	116.1	116.1	123.8	96.2	135.6	70.4	110.7	110.7	117.0	93.4	128.2	67.7
	85	127.9	127.9	131.2	118.8	142.9	92.9	122.6	122.6	124.9	116.1	135.8	90.3	117.0	117.0	118.3	113.3	128.4	87.6
	90	134.5	134.5	134.5	134.5	143.2	112.8	129.0	129.0	129.0	129.0	136.1	110.2	123.2	123.2	123.1	123.1	128.7	107.3
4400	75	120.0	109.1	131.6	84.5	144.1	53.7	114.1	106.4	125.0	82.0	136.8	51.2	108.0	103.5	118.1	79.3	129.2	48.6
	80	124.2	124.2	131.9	103.4	144.3	75.4	118.9	118.9	125.2	100.6	137.0	72.8	113.3	113.3	118.4	97.7	129.4	70.1
	85	131.1	131.1	133.2	125.0	144.5	97.1	125.6	125.6	126.8	122.3	137.2	94.4	119.7	119.7	120.2	119.5	129.6	91.7
	90	137.9	137.9	137.8	137.8	144.8	118.4	132.1	132.1	132.0	132.0	137.7	115.7	126.0	126.0	126.0	126.0	130.2	112.9
4800	75	121.6	113.9	133.0	88.1	145.4	54.5	115.7	111.2	126.2	85.5	138.0	52.1	109.5	108.4	119.1	82.8	130.2	49.5
	80	126.8	126.8	133.2	107.6	145.6	77.8	121.4	121.4	126.6	104.9	138.2	75.2	115.5	115.5	119.6	102.0	130.5	72.5
	85	133.9	133.9	135.0	131.1	145.8	101.1	128.1	128.1	128.6	128.4	138.4	98.4	122.1	122.1	122.0	122.0	130.7	95.7
	90	140.8	140.8	140.7	140.7	146.3	123.9	134.8	134.8	134.7	134.7	139.1	121.2	128.5	128.5	128.5	128.5	131.5	118.4

		Ambient Temperature (°F)											
		115						125					
	Ent DB	Entering Wet Bulb (°F)											
		61		67		73		61		67		73	
CFM	(°F)	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
3600	75	98.3	90.5	108.2	69.4	118.8	44.2	91.5	87.4	100.6	66.4	110.5	41.4
	80	102.2	102.2	108.4	85.8	119.0	62.4	96.1	96.1	100.9	82.7	110.6	59.5
	85	108.1	108.1	109.5	104.0	119.2	80.6	101.7	101.7	102.2	101.0	110.8	77.6
	90	113.9	113.9	113.8	113.8	119.5	98.8	107.3	107.3	107.2	107.2	111.2	95.5
4000	75	100.0	95.6	109.6	72.9	120.1	45.1	93.2	92.5	101.8	69.9	111.6	42.3
	80	104.9	104.9	109.8	90.3	120.3	64.9	98.6	98.6	102.1	87.2	111.8	62.0
	85	111.0	111.0	111.5	110.4	120.5	84.8	104.3	104.3	104.3	104.3	111.9	81.8
	90	116.9	116.9	116.8	116.8	121.0	104.4	110.0	110.0	110.0	110.0	112.7	101.3
4400	75	101.6	100.6	110.7	76.5	121.2	46.0	94.8	94.8	102.7	73.5	112.5	43.1
	80	107.3	107.3	111.1	94.8	121.4	67.3	100.7	100.7	103.3	91.6	112.7	64.4
	85	113.4	113.4	113.4	113.4	121.6	88.9	106.6	106.6	106.5	106.5	112.9	85.9
	90	119.5	119.5	119.5	119.5	122.4	110.0	112.3	112.3	112.3	112.3	113.9	106.9
4800	75	103.0	103.0	111.7	80.0	122.1	46.8	96.5	96.5	103.6	77.0	113.3	44.0
	80	109.3	109.3	112.2	99.0	122.3	69.7	102.6	102.6	104.3	95.9	113.5	66.7
	85	115.6	115.6	115.5	115.5	122.5	92.9	108.5	108.5	108.4	108.4	113.7	89.6
	90	121.8	121.8	121.7	121.7	123.6	115.5	114.3	114.3	114.3	114.3	115.1	112.4

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

Performance Data

Table 13. Gross Cooling Capacities (MBH) 12.5 Tons TTA150E Condensing Unit with 12.5 Tons TWE150E Air Handler (IP)

		Ambient Temperature (°F)																	
		85						95						105					
	Ent DB	Entering Wet Bulb (°F)																	
		61		67		73		61		67		73		61		67		73	
CFM	(°F)	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
4500	75	146.0	123.7	159.9	96.1	174.1	64.1	138.7	120.2	151.8	92.9	165.4	61.0	130.9	116.5	143.4	89.5	156.3	57.9
	80	148.1	147.1	160.2	117.0	174.3	87.1	141.2	141.2	152.1	113.6	165.6	83.9	134.5	134.5	143.6	110.1	156.5	80.6
	85	155.0	155.0	160.8	139.9	174.5	109.7	148.5	148.5	152.8	136.3	165.8	106.5	141.6	141.6	144.6	132.8	156.7	103.2
	90	162.5	162.5	162.4	162.4	174.7	132.3	155.7	155.7	155.7	155.7	166.0	129.0	148.6	148.6	148.5	148.5	157.0	125.7
5000	75	148.3	130.0	162.0	100.5	176.1	65.2	140.9	126.5	153.8	97.2	167.2	62.1	133.0	122.9	145.1	93.9	158.0	59.0
	80	151.6	151.6	162.3	122.8	176.3	90.2	145.0	145.0	154.0	119.4	167.4	87.0	138.0	138.0	145.4	115.9	158.2	83.7
	85	159.4	159.4	163.3	147.7	176.6	115.0	152.5	152.5	155.2	144.2	167.6	111.7	145.3	145.3	146.9	140.7	158.4	108.4
	90	167.0	167.0	166.9	166.9	176.8	139.6	159.9	159.9	159.9	159.9	168.0	136.4	152.5	152.5	152.4	152.4	158.9	133.1
5500	75	150.5	136.2	163.8	104.9	177.8	66.2	142.9	132.7	155.4	101.6	168.7	63.2	134.9	129.1	146.6	98.2	159.4	60.0
	80	155.1	155.1	164.1	128.5	178.0	93.2	148.3	148.3	155.7	125.1	169.0	90.0	141.0	141.0	147.0	121.6	159.6	86.7
	85	163.1	163.1	165.5	155.3	178.3	120.0	156.0	156.0	157.4	151.9	169.2	116.8	148.5	148.5	148.4	148.4	159.8	113.4
	90	170.8	170.8	170.8	170.8	178.7	146.8	163.5	163.5	163.4	163.4	169.7	143.2	155.8	155.8	155.8	155.8	160.5	139.8
6000	75	152.4	142.2	165.4	109.2	179.2	67.3	144.7	138.7	156.8	105.9	170.0	64.2	136.7	135.1	147.8	102.5	160.5	61.0
	80	158.2	158.2	165.7	134.0	179.5	96.1	151.1	151.1	157.2	130.3	170.3	92.9	143.7	143.7	148.4	126.7	160.8	89.6
	85	166.3	166.3	167.6	162.7	179.7	125.0	159.0	159.0	158.9	158.9	170.5	121.7	151.3	151.3	151.2	151.2	161.0	118.4
	90	174.2	174.2	174.1	174.1	180.3	153.3	166.6	166.6	166.6	166.6	171.2	150.0	158.7	158.7	158.7	158.7	162.0	146.6

		Ambient Temperature (°F)											
		115						125					
	Ent DB	Entering Wet Bulb (°F)											
		61		67		73		61		67		73	
CFM	(°F)	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
4500	75	122.8	112.7	134.4	85.9	146.7	54.6	114.0	108.7	124.7	82.2	136.2	51.0
	80	127.2	127.2	134.7	106.4	146.9	77.2	119.3	119.3	125.0	102.6	136.4	73.5
	85	134.2	134.2	135.9	129.2	147.1	99.7	126.0	126.0	126.6	125.3	136.6	95.9
	90	140.9	140.9	140.9	140.9	147.5	122.2	132.5	132.5	132.4	132.4	137.1	118.5
5000	75	124.8	119.1	136.0	90.3	148.2	55.6	115.9	115.1	126.0	86.5	137.5	52.1
	80	130.5	130.5	136.4	112.2	148.4	80.2	122.3	122.3	126.6	108.4	137.7	76.5
	85	137.6	137.6	138.2	137.1	148.6	104.9	129.1	129.1	129.0	129.0	137.9	101.1
	90	144.5	144.5	144.5	144.5	149.2	129.3	135.7	135.7	135.7	135.7	138.7	125.4
5500	75	126.6	125.3	137.3	94.6	149.4	56.6	117.8	117.8	127.2	90.8	138.6	53.1
	80	133.3	133.3	137.8	117.7	149.6	83.2	124.9	124.9	127.9	113.7	138.8	79.5
	85	140.5	140.5	140.4	140.4	149.8	109.9	131.7	131.7	131.7	131.7	139.0	106.2
	90	147.5	147.5	147.5	147.5	150.7	136.2	138.5	138.5	138.4	138.4	140.2	132.4
6000	75	128.3	128.3	138.4	98.9	150.4	57.7	119.9	119.9	128.1	95.1	139.4	54.1
	80	135.8	135.8	139.1	123.0	150.7	86.1	127.1	127.1	129.1	119.0	139.7	82.3
	85	143.0	143.0	143.0	143.0	150.9	114.8	134.0	134.0	133.9	133.9	140.0	111.1
	90	150.1	150.1	150.1	150.1	152.1	143.0	140.8	140.8	140.8	140.8	141.6	139.2

Notes:

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

Table 14. Gross Cooling Capacities (MBH) 15 Tons TTA180E Condensing Unit with 15 Tons TWE180E Air Handler (IP)

		Ambient Temperature (°F)																	
		85						95						105					
	Ent DB	Entering Wet Bulb (°F)																	
		61		67		73		61		67		73		61		67		73	
CFM	(°F)	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
5400	75	172.9	140.0	190.5	114.8	209.4	77.2	164.7	135.6	181.8	111.3	199.9	73.9	156.2	131.3	172.5	107.6	189.6	70.2
	80	174.2	164.4	191.1	133.4	209.8	102.0	164.9	164.9	182.4	129.6	200.4	98.4	157.7	157.7	173.1	125.5	190.3	94.5
	85	180.6	180.6	191.3	157.3	210.4	126.3	173.8	173.8	182.7	153.4	201.0	122.6	166.4	166.4	173.6	149.3	190.9	118.7
	90	189.8	189.8	193.1	181.8	210.9	150.4	182.8	182.8	182.7	182.7	201.5	146.7	175.2	175.2	175.1	175.1	191.3	142.7
6000	75	175.6	145.8	193.5	120.3	212.3	78.7	167.5	141.8	184.6	116.7	202.6	75.2	158.8	137.5	175.0	113.0	192.0	71.4
	80	176.5	176.5	194.2	139.2	212.9	105.2	169.6	169.6	185.3	135.4	203.3	101.5	162.7	159.3	175.7	131.3	192.8	97.6
	85	185.9	185.9	194.6	165.1	213.6	131.5	178.8	178.8	185.9	161.2	203.9	127.8	171.1	171.1	176.5	157.0	193.5	123.9
	90	195.5	195.5	195.3	195.3	214.1	157.7	188.1	188.1	188.0	188.0	204.5	153.9	180.2	180.2	180.9	177.3	194.0	149.9
6600	75	178.3	151.8	196.0	125.7	214.7	80.0	170.0	147.7	186.9	122.1	204.8	76.4	161.1	143.4	177.2	118.3	194.0	72.5
	80	180.9	180.9	196.8	144.8	215.5	108.2	174.2	171.3	187.7	140.9	205.7	104.5	166.1	165.2	177.6	136.2	195.0	100.6
	85	190.6	190.6	197.5	172.5	216.3	136.6	183.2	183.2	188.6	168.6	206.4	132.8	175.2	175.2	179.1	164.4	195.7	128.8
	90	200.4	200.4	200.3	200.3	216.9	164.7	192.8	192.8	193.3	190.5	206.6	160.4	184.6	184.6	184.7	184.3	196.1	156.2
7200	75	180.6	157.5	198.3	131.0	216.8	81.0	172.2	153.4	189.0	127.4	206.7	77.1	163.2	149.1	179.0	123.6	195.8	73.1
	80	185.1	182.7	199.1	150.1	217.7	111.1	177.4	177.0	189.4	145.7	207.7	107.4	169.3	169.3	179.5	141.2	196.9	103.4
	85	194.7	194.7	200.1	179.6	218.6	141.4	187.1	187.1	191.1	175.7	208.5	137.6	178.8	178.8	181.6	171.6	197.7	133.6
	90	204.8	204.8	205.2	203.1	218.9	170.8	197.0	197.0	196.9	196.9	208.9	166.8	188.5	188.5	188.4	188.4	198.2	162.6

		Ambient Temperature (°F)											
		115						125					
	Ent	Entering Wet Bulb (°F)											
	DB	61		67		73		61		67		73	
CFM	(°F)	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
5400	75	147.1	126.9	162.3	103.6	178.5	66.3	137.2	122.1	151.2	99.3	166.1	61.8
	80	150.6	146.9	163.0	121.2	179.3	90.4	141.5	140.1	151.9	116.6	167.1	85.9
	85	158.4	158.4	163.8	144.9	179.9	114.5	149.5	149.5	153.0	140.3	167.7	110.0
	90	166.9	166.9	167.7	163.6	180.3	138.5	157.7	157.7	157.9	156.6	168.0	133.3
6000	75	149.5	133.0	164.6	109.0	180.5	67.3	139.4	128.2	153.2	104.6	168.0	62.6
	80	154.2	153.0	165.0	126.4	181.6	93.4	145.0	145.0	153.7	121.4	169.1	88.9
	85	162.7	162.7	166.5	152.6	182.3	119.6	153.4	153.4	153.3	153.3	169.8	115.1
	90	171.6	171.6	171.7	170.8	182.5	145.1	161.9	161.9	161.8	161.8	170.3	140.3
6600	75	151.7	138.9	166.6	114.3	182.4	68.0	139.5	139.5	154.9	109.9	169.5	65.0
	80	157.5	157.5	167.0	131.5	183.5	96.4	148.2	148.2	155.5	126.6	170.8	91.8
	85	166.6	166.6	166.4	166.4	184.3	124.6	156.9	156.9	156.7	156.7	171.6	120.0
	90	175.6	175.6	175.5	175.5	184.7	151.8	165.6	165.6	165.5	165.5	172.3	147.0
7200	75	153.7	144.6	168.2	119.6	183.9	70.5	142.1	142.1	156.4	113.8	170.8	66.3
	80	160.6	160.6	168.8	136.6	185.2	99.2	151.0	151.0	157.2	131.6	172.3	94.6
	85	169.9	169.9	169.8	169.8	186.0	129.3	159.9	159.9	160.8	155.6	172.7	123.9
	90	179.2	179.2	179.1	179.1	186.7	158.2	168.8	168.8	168.7	168.7	174.1	153.4

Notes:

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

Performance Data

Table 15. Gross Cooling Capacities (MBH) 15 Tons TTA180E Condensing Unit with 20 Tons TWE240E Air Handler (IP)

		Ambient Temperature (°F)																	
		85						95						105					
	Ent DB	Entering Wet Bulb (°F)																	
		61		67		73		61		67		73		61		67		73	
CFM	(°F)	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
6400	75	185.4	161.3	203.8	127.6	223.7	82.9	176.7	157.2	194.2	123.9	213.4	79.4	167.5	152.8	184.0	119.9	202.2	75.4
	80	189.9	186.9	204.3	153.2	224.1	113.8	181.9	181.1	194.7	149.2	213.8	110.0	173.5	173.5	184.4	144.6	202.7	106.0
	85	199.5	199.5	205.5	183.8	224.7	144.4	191.7	191.7	196.2	179.8	214.3	140.5	183.4	183.4	186.4	175.7	203.2	136.5
	90	209.9	209.9	210.6	207.7	225.2	174.9	201.9	201.9	202.1	201.9	214.7	170.7	193.3	193.3	193.2	193.2	203.8	166.5
6700	75	186.7	164.8	205.0	130.3	224.9	83.6	177.9	160.7	195.3	126.5	214.4	80.0	168.7	156.3	185.0	122.5	203.1	76.2
	80	191.8	190.4	205.5	156.5	225.4	115.5	183.7	183.7	195.7	152.1	215.0	111.7	175.4	175.4	185.5	147.8	203.8	107.7
	85	201.9	201.9	207.0	188.2	225.9	147.3	194.0	194.0	197.7	184.3	215.5	143.5	185.5	185.5	185.3	185.3	204.3	139.4
	90	212.5	212.5	212.8	211.9	226.3	178.7	204.4	204.4	204.2	204.2	216.0	174.7	195.5	195.5	195.4	195.4	204.9	170.6
7000	75	187.9	168.3	206.1	133.0	226.0	84.3	179.1	164.1	196.4	129.2	215.4	80.5	169.9	159.8	185.9	125.2	204.0	76.9
	80	193.5	193.5	206.5	159.4	226.5	117.3	185.7	185.7	196.8	155.2	216.0	113.4	177.3	177.3	186.5	150.9	204.7	109.4
	85	204.2	204.2	208.5	192.5	227.1	150.2	196.1	196.1	199.1	188.6	216.6	146.3	187.5	187.5	187.3	187.3	205.2	142.2
	90	214.9	214.9	214.8	214.8	227.6	182.6	206.6	206.6	206.5	206.5	217.2	178.7	197.6	197.6	197.5	197.5	206.1	174.5
7300	75	189.1	171.7	207.2	135.7	227.0	84.9	180.3	167.6	197.4	131.9	216.2	81.4	168.8	168.8	186.8	127.9	204.8	77.5
	80	195.5	195.5	207.6	162.4	227.6	118.9	187.5	187.5	197.9	158.3	217.0	115.1	179.0	179.0	187.5	153.9	205.6	111.0
	85	206.3	206.3	209.9	196.8	228.2	153.0	198.1	198.1	198.0	198.0	217.5	149.1	189.3	189.3	189.1	189.1	206.1	145.0
	90	217.1	217.1	217.1	217.1	228.8	186.5	208.7	208.7	208.6	208.6	218.3	182.5	199.6	199.6	199.6	199.6	207.1	178.4

		Ambient Temperature (°F)											
		115						125					
	Ent	Entering Wet Bulb (°F)											
	DB	61		67		73		61		67		73	
CFM	(°F)	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
6400	75	157.7	148.3	172.9	115.6	190.0	71.5	145.8	145.8	160.8	111.0	176.7	67.1
	80	164.7	164.7	173.5	140.1	190.7	101.7	154.9	154.9	161.5	135.2	177.5	97.0
	85	174.3	174.3	174.1	174.1	191.2	132.2	164.2	164.2	165.2	159.6	178.0	127.5
	90	183.9	183.9	183.8	183.8	192.0	162.1	173.4	173.4	173.3	173.3	179.1	157.4
6700	75	156.8	156.8	173.8	118.3	190.9	72.2	148.5	142.0	161.6	113.6	177.4	67.7
	80	166.5	166.5	174.5	143.2	191.7	103.4	156.5	156.5	162.5	138.3	178.3	98.7
	85	176.2	176.2	176.1	176.1	192.2	135.0	165.9	165.9	166.7	162.5	178.9	130.4
	90	186.0	186.0	185.9	185.9	193.1	166.2	175.3	175.3	175.2	175.2	180.1	161.4
7000	75	158.4	158.4	174.7	120.9	191.7	72.8	149.7	144.3	162.3	116.3	178.1	68.4
	80	168.2	168.2	175.4	146.3	192.5	105.1	158.0	158.0	163.3	141.3	179.1	100.4
	85	178.1	178.0	179.2	174.4	193.0	137.9	167.6	167.6	168.0	165.4	179.4	132.6
	90	187.9	187.9	187.8	187.8	194.1	170.1	177.1	177.1	177.0	177.0	181.2	165.3
7300	75	159.9	159.9	175.4	123.6	192.5	73.5	150.8	146.5	163.0	118.9	178.8	69.0
	80	169.8	169.8	176.3	149.3	193.3	106.7	159.5	159.5	164.1	144.4	179.8	102.0
	85	179.8	179.8	180.6	176.1	193.9	140.7	169.1	169.1	169.3	168.3	180.2	135.3
	90	189.8	189.8	189.6	189.6	195.2	174.0	178.7	178.7	178.7	178.7	182.2	169.3

Notes:

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

Table 16. Gross Cooling Capacities (MBH) One Compressor - 15 Tons TTA180F Condensing Unit with 15 Tons TWE180E Air Handler (IP)

		Ambient Temperature (°F)																	
		85						95						105					
	Ent DB	Entering Wet Bulb (°F)																	
		61		67		73		61		67		73		61		67		73	
CFM	(°F)	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
5400	75	106.4	106.4	113.7	84.8	123.5	48.4	101.7	101.7	108.0	82.8	117.6	46.4	96.6	96.6	101.9	75.4	110.6	43.2
	80	112.8	112.8	114.6	105.2	124.1	73.4	107.8	107.8	109.0	103.1	117.6	71.1	102.5	102.5	103.0	100.8	110.7	63.6
	85	119.1	119.1	119.1	119.1	124.1	97.8	113.5	113.5	113.5	113.5	117.7	95.7	107.7	107.7	107.7	107.7	111.7	87.3
	90	124.8	124.8	124.7	124.7	125.4	122.9	120.1	120.1	120.1	120.1	120.1	120.1	114.8	114.8	114.8	114.8	114.8	114.8
6000	75	108.4	108.4	114.7	89.6	124.3	49.7	103.6	103.6	108.9	87.7	118.4	46.6	99.5	99.5	102.7	78.9	111.3	44.2
	80	114.9	114.9	115.9	111.0	124.9	76.6	109.9	109.9	110.3	108.9	118.4	74.3	104.0	104.0	104.0	104.0	111.4	63.6
	85	121.0	121.0	121.0	121.0	125.1	103.0	115.5	115.5	115.5	115.5	119.9	101.3	109.5	109.5	108.8	108.8	114.4	110.2
	90	127.4	127.4	127.4	127.4	127.3	127.3	122.4	122.4	122.4	122.4	122.3	122.3	116.9	116.9	116.9	116.9	116.9	116.9
6600	75	110.2	110.2	115.5	94.4	125.0	49.6	107.4	107.4	109.6	92.5	119.1	47.5	99.8	99.8	103.3	82.3	112.0	45.1
	80	116.8	116.8	117.1	116.7	126.0	78.9	111.6	111.6	111.6	111.6	119.1	76.6	105.4	105.4	105.4	105.4	113.0	75.0
	85	122.8	122.8	122.8	122.8	126.0	108.0	117.2	117.2	117.2	117.2	120.8	106.3	111.9	111.9	110.2	110.2	114.8	100.0
	90	129.5	129.5	129.5	129.5	129.4	129.4	124.3	124.3	124.3	124.3	124.2	124.2	118.6	118.6	118.6	118.6	118.6	118.6
7200	75	111.4	111.4	116.3	99.1	125.6	52.2	106.6	106.6	110.3	97.3	119.6	48.4	101.0	101.0	103.9	85.6	113.0	48.1
	80	118.6	118.6	118.5	118.5	126.5	81.5	112.9	112.9	112.9	112.9	119.6	79.3	106.6	106.6	106.6	106.6	114.1	76.0
	85	125.5	125.5	125.4	125.4	126.8	112.8	119.9	119.9	119.8	119.8	121.6	105.0	112.7	112.7	112.1	112.1	115.8	100.5
	90	131.8	131.8	131.8	131.8	131.2	131.2	125.9	125.9	125.9	125.9	125.9	125.9	120.1	120.1	120.1	120.1	120.1	120.1

		Ambient Temperature (°F)											
		115						125					
	Ent DB	Entering Wet Bulb (°F)											
		61		67		73		61		67		73	
CFM	(°F)	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
5400	75	91.0	91.0	95.2	72.8	103.0	35.6	84.9	84.9	87.2	69.8	95.5	29.0
	80	96.1	96.1	96.1	96.1	104.0	55.0	89.5	89.5	88.0	76.0	97.0	48.0
	85	102.7	102.7	101.6	101.6	106.5	79.0	95.0	95.0	92.0	86.0	100.0	72.0
	90	110.9	110.9	110.8	110.8	110.8	110.8	101.0	101.0	99.0	95.0	106.0	106.0
6000	75	92.6	92.6	95.5	76.2	103.6	36.1	85.2	85.2	87.7	73.3	87.8	70.0
	80	97.6	97.6	97.6	97.6	104.0	60.9	89.1	89.1	89.8	89.8	90.4	80.7
	85	103.7	103.7	102.5	102.5	106.0	85.8	95.3	95.3	94.4	94.4	95.0	91.4
	90	110.7	110.7	110.6	110.6	110.6	110.6	103.0	103.0	101.9	101.9	102.1	102.1
6600	75	93.9	93.9	96.0	79.6	106.0	39.9	87.4	87.4	89.0	76.4	99.8	35.0
	80	100.0	100.0	98.6	98.6	107.1	69.8	93.6	93.6	92.7	92.7	101.0	65.1
	85	106.1	106.1	104.0	104.0	108.9	93.7	99.8	99.8	97.3	97.3	102.9	88.2
	90	112.2	112.2	112.2	112.2	112.2	112.2	106.0	106.0	105.0	105.0	106.1	106.1
7200	75	95.0	95.0	96.5	82.8	105.9	41.0	87.0	87.0	89.8	79.1	98.4	33.9
	80	101.3	101.3	99.3	99.3	107.3	67.4	93.9	93.9	92.5	92.5	99.4	59.8
	85	107.7	107.7	105.1	105.1	108.8	93.1	100.5	100.5	97.6	97.6	101.3	85.4
	90	113.5	113.5	113.5	113.5	113.5	113.5	106.2	106.2	106.5	106.5	105.2	107.0

Notes:

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

Table 17. Gross Cooling Capacities (MBH) Both Compressors - 15 Tons TTA180F Condensing Unit with 15 Tons TWE180E Air Handler (IP)

		Ambient Temperature (°F)																	
		85						95						105					
	Ent DB	Entering Wet Bulb (°F)																	
		61		67		73		61		67		73		61		67		73	
CFM	(°F)	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
5400	75	174.2	141.0	190.9	115.5	208.8	77.2	166.3	136.8	182.6	112.1	199.6	73.9	158.1	132.6	173.5	108.5	189.6	70.5
	80	175.4	164.8	191.7	134.1	209.4	102.1	168.2	161.1	183.4	130.4	200.3	98.6	160.4	157.1	174.4	126.5	190.4	94.8
	85	181.7	181.7	192.0	157.9	210.2	126.6	175.0	175.0	183.7	154.1	201.1	123.0	167.8	167.8	174.7	150.0	191.2	119.2
	90	190.6	190.6	193.8	181.9	210.9	150.9	183.8	183.8	185.8	178.2	201.7	147.3	176.4	176.4	177.3	174.2	191.8	143.5
6000	75	176.8	146.7	193.8	121.0	211.5	78.6	169.0	142.7	185.2	117.6	202.0	75.3	160.5	138.5	176.0	113.9	191.8	71.6
	80	179.1	173.2	194.7	139.9	212.4	105.3	171.7	169.4	186.1	136.2	203.0	101.8	163.7	163.7	176.8	132.3	192.8	98.0
	85	186.8	186.8	195.1	165.4	213.3	131.8	179.9	179.9	186.5	161.5	203.9	128.2	172.4	172.4	177.5	157.4	193.7	124.4
	90	196.1	196.1	197.7	191.7	214.0	158.2	188.9	188.9	189.7	187.9	204.6	154.6	181.1	181.1	181.0	181.0	194.4	150.7
6600	75	179.3	152.4	196.3	126.4	213.8	80.0	171.3	148.4	187.5	123.0	204.1	76.4	162.7	144.2	178.0	119.3	193.6	72.7
	80	182.4	181.1	197.3	145.5	214.9	108.3	174.9	174.9	188.4	141.7	205.3	104.7	167.4	167.4	178.6	136.9	194.9	100.9
	85	191.3	191.3	197.8	172.5	215.9	136.9	184.2	184.2	189.2	168.7	206.2	133.2	176.4	176.4	180.0	164.5	195.9	129.4
	90	200.8	200.8	201.4	201.1	216.6	165.2	193.4	193.4	193.3	193.3	206.6	160.5	185.3	185.3	185.2	185.2	196.2	156.3
7200	75	181.5	157.8	198.4	131.8	215.6	81.0	173.3	153.8	189.5	128.3	205.7	77.4	164.7	149.6	179.8	124.6	195.0	74.4
	80	185.5	185.5	199.0	150.0	217.1	111.2	178.4	178.4	190.1	146.0	207.3	107.6	170.6	170.6	180.5	141.7	196.7	103.8
	85	195.3	195.3	200.3	179.4	218.1	141.7	187.9	187.9	191.6	175.5	208.3	138.0	179.8	179.8	182.3	171.4	197.7	134.1
	90	205.1	205.1	205.0	205.0	218.5	170.6	197.4	197.4	197.3	197.3	208.7	166.7	189.0	189.0	188.9	188.9	198.2	162.5

		Ambient Temperature (°F)											
		115						125					
	Ent DB	Entering Wet Bulb (°F)											
		61		67		73		61		67		73	
CFM	(°F)	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
5400	75	149.2	128.2	163.8	104.6	178.8	66.6	139.5	123.4	153.0	100.5	166.8	62.4
	80	151.9	151.9	164.6	122.4	179.7	90.9	143.4	143.4	153.8	117.9	167.9	86.5
	85	160.1	160.1	165.1	145.6	180.5	115.2	151.3	151.3	154.7	140.9	168.7	110.8
	90	168.2	168.2	168.1	168.1	181.1	139.4	159.1	159.1	159.1	159.1	169.0	134.0
6000	75	151.5	134.1	166.0	110.0	180.7	67.7	141.7	129.3	155.0	105.8	168.3	64.0
	80	155.8	155.8	166.8	128.1	181.9	93.9	147.0	147.0	155.5	122.5	169.8	89.6
	85	164.2	164.2	167.8	153.0	182.8	120.3	155.0	155.0	157.2	148.2	170.7	115.9
	90	172.6	172.6	172.6	172.6	183.1	145.5	163.1	163.1	163.1	163.1	171.1	140.6
6600	75	153.6	139.7	167.8	115.4	182.1	69.4	143.6	134.8	156.6	111.1	169.7	65.3
	80	159.2	159.2	168.4	132.4	183.8	96.9	150.0	150.0	157.2	127.5	171.5	92.5
	85	167.8	167.8	170.2	160.1	184.7	125.3	158.3	158.3	159.4	155.2	172.4	120.8
	90	176.5	176.5	176.4	176.4	185.1	151.8	166.6	166.6	166.5	166.5	172.9	147.0
7200	75	155.5	145.1	169.4	120.7	183.6	70.7	145.4	140.2	158.0	116.4	171.0	66.6
	80	162.1	162.1	170.1	137.2	185.3	99.7	152.7	152.7	158.7	132.2	172.8	95.2
	85	171.0	171.0	172.4	166.9	186.3	130.0	161.2	161.2	161.1	161.1	173.4	124.3
	90	179.9	179.9	179.8	179.8	186.8	158.0	169.7	169.7	169.7	169.7	174.6	153.1

Notes:

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

Table 18. Gross Cooling Capacities (MBH) 20 Tons TTA240E Condensing Unit with 20 Tons TWE240E Air Handler (IP)

		Ambient Temperature (°F)																	
		85						95						105					
	Ent DB	Entering Wet Bulb (°F)																	
		61		67		73		61		67		73		61		67		73	
CFM	(°F)	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
7200	75	245.0	197.2	270.0	160.0	297.4	109.4	234.5	192.0	258.2	155.2	284.3	104.7	222.7	186.1	245.4	150.0	270.0	99.6
	80	247.5	231.4	270.8	188.0	297.6	144.0	237.4	226.1	259.0	182.8	284.5	139.0	226.5	220.5	246.3	177.3	270.3	133.6
	85	255.7	255.7	271.6	222.1	298.1	177.9	246.5	246.5	259.7	216.5	285.1	172.8	236.5	236.5	247.1	210.8	271.0	167.3
	90	268.7	268.7	274.4	255.7	298.7	211.6	259.2	259.2	263.2	250.5	285.7	206.4	248.8	248.8	251.3	244.8	271.6	200.9
8000	75	249.1	206.1	274.4	167.3	301.8	111.3	238.3	200.7	262.2	162.4	288.2	106.6	226.6	194.8	249.1	157.2	273.6	101.4
	80	253.0	243.7	275.3	196.4	302.1	148.6	240.7	240.7	263.1	191.1	288.6	143.5	230.7	230.7	250.0	185.5	274.0	138.0
	85	263.4	263.4	276.1	233.0	302.7	185.4	253.8	253.8	264.2	227.5	289.2	180.3	243.3	243.3	251.5	221.7	274.7	174.8
	90	276.9	276.9	280.4	270.1	303.4	222.1	266.9	266.9	266.6	266.6	289.9	216.9	255.9	255.9	255.7	255.7	275.5	211.4
8800	75	253.0	214.7	278.1	174.6	305.6	113.3	242.0	209.2	265.6	169.6	291.6	108.3	230.0	203.3	252.1	164.4	276.6	102.8
	80	256.3	256.3	279.1	204.4	305.9	153.0	246.7	246.7	266.6	199.1	292.0	147.8	236.1	236.1	253.1	193.4	277.1	142.3
	85	270.1	270.1	280.4	243.6	306.6	192.7	260.1	260.1	268.3	238.2	292.7	187.5	249.2	249.2	255.3	232.3	277.9	181.9
	90	284.0	284.0	283.8	283.8	307.3	232.2	273.6	273.6	273.4	273.4	293.6	227.0	262.2	262.2	262.0	262.0	278.4	220.9
9600	75	256.5	222.9	281.3	181.8	308.8	114.9	245.2	217.4	268.5	176.8	294.5	109.6	233.1	211.4	254.8	171.5	279.2	104.2
	80	261.9	261.9	282.3	212.1	309.2	157.2	251.9	251.9	269.5	206.7	295.0	152.0	241.0	241.0	255.4	200.5	279.8	146.4
	85	276.1	276.1	284.4	253.9	309.9	199.7	265.7	265.7	272.1	248.4	295.8	194.4	254.4	254.4	258.9	242.5	280.6	188.8
	90	290.4	290.4	290.2	290.2	310.8	242.0	279.5	279.5	279.3	279.3	296.4	236.1	267.7	267.7	267.5	267.5	281.4	230.2

		Ambient Temperature (°F)											
		115						125					
	Ent DB	Entering Wet Bulb (°F)											
		61		67		73		61		67		73	
CFM	(°F)	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
7200	75	210.3	179.8	231.5	144.4	254.5	94.1	196.5	173.0	215.9	138.3	237.1	88.0
	80	213.7	213.7	232.4	171.3	254.8	127.8	202.0	201.4	216.8	164.8	237.6	121.5
	85	225.4	225.4	233.6	204.6	255.6	161.5	212.9	212.9	218.6	197.8	238.4	155.1
	90	237.3	237.3	237.0	237.0	256.3	195.1	224.2	224.2	224.5	224.2	239.3	188.8
8000	75	213.9	188.5	234.7	151.6	257.6	95.6	199.8	181.6	218.7	145.4	239.8	89.3
	80	219.9	219.4	235.6	179.5	258.1	132.2	206.9	206.9	219.3	172.4	240.5	125.8
	85	231.6	231.6	237.6	215.5	258.9	168.9	218.5	218.5	222.3	208.6	241.3	162.5
	90	243.9	243.9	243.7	243.7	259.8	205.6	230.2	230.2	230.0	230.0	242.0	198.1
8800	75	217.1	196.9	237.5	158.7	260.3	97.0	202.8	189.9	221.1	152.5	241.9	91.8
	80	224.5	224.5	238.1	186.8	260.9	136.4	211.4	211.4	222.0	179.8	242.9	130.0
	85	237.1	237.1	241.3	225.9	261.7	176.0	223.4	223.4	223.2	223.2	243.7	169.5
	90	249.6	249.6	249.4	249.4	262.5	214.6	235.4	235.4	235.2	235.2	244.9	207.6
9600	75	220.0	204.9	239.8	165.8	262.5	99.7	205.5	197.9	223.2	159.5	243.8	93.6
	80	229.0	229.0	240.7	194.0	263.3	140.5	215.4	215.4	224.3	186.9	244.9	134.0
	85	241.8	241.8	244.6	236.1	264.1	182.9	227.7	227.7	227.5	227.5	245.8	176.3
	90	254.7	254.7	254.5	254.5	265.3	223.8	240.0	240.0	239.8	239.8	247.5	216.8

Notes:

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

Table 19. Gross Cooling Capacities (MBH) One Compressor - 20 Tons TTA240F Condensing Unit with 20 Tons TWE240E Air Handler (IP)

		Ambient Temperature (°F)																	
		85						95						105					
	Ent DB	Entering Wet Bulb (°F)																	
		61		67		73		61		67		73		61		67		73	
CFM	(°F)	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
7200	75	143.7	136.8	158.0	116.7	173.8	67.2	137.4	133.9	150.6	113.9	165.4	64.5	130.5	130.5	142.5	109.8	156.3	61.6
	80	151.0	151.0	158.2	129.6	173.9	93.8	145.0	145.0	150.8	126.6	165.6	90.9	138.4	138.4	142.7	123.2	156.5	87.7
	85	159.6	159.6	160.0	158.0	174.2	122.2	153.3	153.3	153.2	153.2	165.8	119.3	146.3	146.3	146.2	146.2	156.7	116.1
	90	168.2	168.2	168.1	168.1	174.3	149.8	161.6	161.6	161.5	161.5	166.0	146.7	154.2	154.2	154.2	154.2	157.1	143.4
8000	75	145.9	143.5	159.7	122.5	175.4	69.0	139.6	139.6	152.1	119.7	166.9	66.3	133.1	133.1	143.8	116.6	157.6	63.4
	80	154.3	154.3	160.0	135.6	175.7	97.2	148.1	148.1	152.4	132.4	167.1	94.2	141.2	141.2	144.1	129.1	157.8	91.0
	85	163.1	163.1	163.0	163.0	175.9	127.8	156.6	156.6	156.5	156.5	167.3	124.5	149.3	149.3	149.2	149.2	158.0	121.1
	90	172.0	172.0	171.9	171.9	176.2	157.4	165.1	165.1	165.0	165.0	167.9	154.3	157.4	157.4	157.3	157.3	158.9	151.0
8800	75	148.2	148.2	161.2	129.3	176.8	70.8	142.1	142.1	153.4	126.5	168.1	68.0	135.4	135.4	145.0	123.4	158.7	65.1
	80	157.2	157.2	161.4	141.2	177.1	100.3	150.7	150.7	153.7	138.1	168.4	97.3	143.6	143.6	145.5	134.7	159.0	94.1
	85	166.2	166.2	166.1	166.1	177.3	132.7	159.4	159.4	159.3	159.3	168.6	129.6	151.9	151.9	151.8	151.8	159.1	126.1
	90	175.3	175.3	175.2	175.2	178.0	164.7	168.1	168.1	168.0	168.0	169.6	161.6	160.1	160.1	160.0	160.0	160.6	158.2
9600	75	150.5	150.5	162.4	136.1	178.0	72.5	144.2	144.2	154.6	133.3	169.2	69.8	137.3	137.3	145.9	129.7	159.6	66.8
	80	159.7	159.7	162.8	146.6	178.4	103.4	153.1	153.1	155.1	143.5	169.5	100.3	145.7	145.7	146.8	140.1	159.9	97.1
	85	168.9	168.9	168.8	168.8	178.6	137.6	161.9	161.9	161.8	161.8	169.7	134.4	154.1	154.1	154.1	154.1	160.1	131.0
	90	178.2	178.2	178.1	178.1	179.7	171.7	170.7	170.7	170.6	170.6	171.2	168.6	162.1	162.1	162.1	162.1	162.0	162.0

		Ambient Temperature (°F)											
		115						125					
	Ent DB	Entering Wet Bulb (°F)											
		61		67		73		61		67		73	
CFM	(°F)	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
7200	75	123.6	123.6	133.7	106.5	146.4	58.5	115.8	115.8	124.0	103.0	135.6	55.1
	80	131.1	131.1	133.9	119.6	146.7	84.3	122.9	122.9	124.5	115.8	135.9	80.7
	85	138.6	138.6	138.5	138.5	146.8	112.2	130.0	130.0	129.9	129.9	136.1	108.4
	90	146.1	146.1	146.1	146.1	147.6	139.9	137.0	137.0	137.0	137.0	137.4	136.0
8000	75	125.9	125.9	134.8	113.3	147.5	60.2	117.9	117.9	124.9	109.3	136.6	56.8
	80	133.6	133.6	135.3	125.5	147.8	87.6	125.2	125.2	125.9	121.6	136.9	83.9
	85	141.3	141.3	141.2	141.2	148.0	117.5	132.4	132.4	132.3	132.3	137.1	113.6
	90	148.9	148.9	148.9	148.9	149.4	147.4	139.5	139.5	139.5	139.5	139.4	139.4
8800	75	127.9	127.9	135.8	119.6	148.5	61.9	119.7	119.7	125.8	115.8	137.4	58.5
	80	135.8	135.8	136.7	131.1	148.8	90.7	127.1	127.1	127.0	127.0	137.7	87.0
	85	143.6	143.6	143.5	143.5	149.0	122.5	134.4	134.4	134.4	134.4	137.9	118.5
	90	151.4	151.4	151.3	151.3	151.2	151.2	141.6	141.6	141.6	141.6	141.5	141.5
9600	75	129.7	129.7	136.7	126.1	149.3	63.6	121.3	121.3	126.6	98.1	138.1	60.2
	80	137.7	137.7	138.0	136.5	149.7	93.6	128.8	128.8	128.7	128.7	138.5	89.9
	85	145.6	145.6	145.6	145.6	149.9	127.3	136.2	136.2	136.1	136.1	138.7	123.3
	90	152.7	152.7	152.7	152.7	152.7	152.7	143.5	143.5	143.4	143.4	143.3	143.3

Notes:

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

Table 20. Gross Cooling Capacities (MBH) Both Compressors - 20 Tons TTA240F Condensing Unit with 20 Tons TWE240E Air Handler (IP)

		Ambient Temperature (°F)																	
		85						95						105					
	Ent DB	Entering Wet Bulb (°F)																	
		61		67		73		61		67		73		61		67		73	
CFM	(°F)	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
7200	75	237.0	189.3	261.7	156.2	288.4	106.0	226.8	184.2	250.2	151.6	275.6	101.5	215.5	178.8	237.7	146.6	261.6	96.6
	80	238.8	221.9	262.0	180.5	288.4	139.0	229.0	216.9	250.6	175.5	275.6	134.0	218.4	211.6	238.1	170.2	261.7	128.8
	85	246.3	246.3	262.4	212.6	288.5	170.9	237.5	237.5	250.9	207.6	275.7	165.9	227.8	227.8	238.6	202.2	261.9	160.7
	90	258.6	258.6	264.4	244.8	288.8	202.7	249.5	249.5	253.6	239.8	276.0	197.7	239.4	239.4	241.9	234.5	262.2	192.4
8000	75	241.2	197.7	265.9	163.6	292.9	108.1	230.5	192.6	254.1	158.8	279.6	103.4	218.9	187.2	241.2	153.8	265.2	98.5
	80	244.0	233.2	266.4	188.2	292.8	143.2	234.0	228.2	254.5	183.2	279.6	138.2	223.2	222.9	241.7	177.7	265.3	132.9
	85	253.6	253.6	266.7	223.0	293.0	177.9	244.4	244.4	255.1	218.0	279.7	172.8	234.2	234.2	242.4	212.3	265.5	167.5
	90	266.4	266.4	270.1	258.1	293.3	212.4	256.7	256.7	259.0	253.0	280.0	207.3	246.2	246.2	246.0	246.0	265.8	201.9
8800	75	244.7	205.8	269.5	170.8	296.4	110.0	233.8	200.7	257.3	166.0	282.9	104.9	222.0	194.9	244.1	160.9	268.2	99.6
	80	248.7	244.1	270.0	195.6	296.5	147.2	237.7	237.7	257.9	190.5	282.9	142.2	227.5	227.5	244.7	185.0	268.3	136.8
	85	260.0	260.0	270.7	233.1	296.7	184.5	250.4	250.4	258.8	227.6	283.1	179.4	239.8	239.8	246.1	222.1	268.5	174.0
	90	273.2	273.2	275.2	270.8	297.0	221.6	263.1	263.1	263.0	263.0	283.5	216.5	252.1	252.1	252.0	252.0	268.9	211.0
9600	75	247.7	213.2	272.6	178.0	299.7	111.3	236.8	208.0	260.2	173.1	285.7	106.2	225.0	202.4	246.7	168.0	270.7	100.9
	80	252.3	252.3	273.2	202.6	299.7	151.1	242.7	242.7	260.7	197.4	285.7	146.0	232.1	232.1	247.3	191.9	270.8	140.6
	85	265.7	265.7	274.3	242.3	299.9	190.9	255.7	255.7	262.3	237.1	286.0	185.7	244.7	244.7	249.4	231.5	271.1	180.3
	90	279.3	279.3	279.1	279.1	300.3	230.4	268.8	268.8	268.6	268.6	286.4	225.3	257.3	257.3	257.2	257.2	271.5	219.8

		Ambient Temperature (°F)											
		115						125					
	Ent DB	Entering Wet Bulb (°F)											
		61		67		73		61		67		73	
CFM	(°F)	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC	MBH	SHC
7200	75	203.2	173.0	224.0	141.1	246.4	91.3	189.6	166.5	208.8	135.1	229.5	85.5
	80	206.9	205.9	224.5	164.4	246.5	123.1	194.3	194.3	209.3	158.0	229.6	116.9
	85	217.1	217.1	225.3	196.5	246.7	155.0	204.9	204.9	210.4	189.8	229.9	148.8
	90	228.2	228.2	229.3	228.7	247.1	186.7	215.6	215.6	215.4	215.4	230.2	180.4
8000	75	206.4	181.1	227.1	148.3	249.5	92.6	192.8	174.5	211.5	142.2	232.1	87.3
	80	211.5	211.5	227.6	171.9	249.7	127.2	199.3	199.3	212.0	165.5	232.3	120.9
	85	222.9	222.9	228.9	206.4	249.9	161.8	210.2	210.2	213.9	199.9	232.6	155.5
	90	234.4	234.4	234.3	234.3	250.2	196.1	221.1	221.1	221.0	221.0	233.0	189.8
8800	75	209.5	188.9	229.7	155.4	252.2	93.9	195.6	182.3	213.7	149.3	234.3	89.1
	80	216.3	216.3	230.3	179.1	252.3	131.1	203.6	203.6	214.3	172.6	234.5	124.8
	85	228.1	228.1	232.3	216.1	252.6	168.2	214.8	214.8	217.1	209.5	234.9	161.9
	90	239.9	239.9	239.7	239.7	252.9	205.2	226.0	226.0	225.9	225.9	235.6	199.0
9600	75	212.2	196.3	232.0	162.4	254.3	96.8	198.1	189.7	215.7	156.3	236.2	90.9
	80	220.5	220.5	232.6	185.9	254.5	134.8	207.4	207.4	216.3	179.4	236.5	128.5
	85	232.6	232.6	235.4	225.4	254.9	174.5	218.8	218.8	220.0	218.8	236.9	168.1
	90	244.6	244.6	244.5	244.5	255.5	214.1	230.3	230.3	230.2	230.2	237.8	207.0

Notes:

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

Performance Data

Table 21. Gross Cooling Capacities (MBH) 6 Tons TTA073D Condensing Unit Only (IP)

Outdoor Temp (°F)		Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	248.4	262.2	269.4	276.9	284.7	292.9
	Capacity (Btuh/1000)	66.4	73.5	81.0	88.7	96.7	105.0
	Unit Power (kW)	4.4	4.4	4.4	4.5	4.5	4.6
75	Head Press (psig)	292.6	299.8	307.3	315.0	323.1	331.5
	Capacity (Btuh/1000)	62.6	69.4	76.4	83.8	91.3	99.1
	Unit Power (kW)	4.7	4.8	4.8	4.9	5.0	5.0
85	Head Press (psig)	333.3	340.8	348.6	356.7	365.1	373.7
	Capacity (Btuh/1000)	58.5	65.0	71.7	78.7	85.8	93.1
	Unit Power (kW)	5.2	5.3	5.3	5.4	5.5	5.5
95	Head Press (psig)	377.5	385.4	393.5	401.9	410.6	419.4
	Capacity (Btuh/1000)	54.2	60.4	66.8	73.4	80.1	87.0
	Unit Power (kW)	5.7	5.8	5.9	5.9	6.0	6.1
105	Head Press (psig)	425.2	433.5	442.1	450.9	459.8	469.0
	Capacity (Btuh/1000)	49.7	55.6	61.7	67.9	74.3	80.8
	Unit Power (kW)	6.4	6.4	6.5	6.5	6.6	6.7
115	Head Press (psig)	476.7	485.5	494.4	503.5	512.7	522.1
	Capacity (Btuh/1000)	45.0	50.6	56.3	62.3	68.3	74.4
	Unit Power (kW)	7.0	7.1	7.1	7.2	7.3	7.3
125	Head Press (psig)	531.8	541.1	550.3	559.6	569.0	578.4
	Capacity (Btuh/1000)	40.0	45.3	50.7	56.3	61.9	67.5
	Unit Power (kW)	7.8	7.8	7.9	7.9	8.0	8.0

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

Figure 4. TTA073D Capacity Curve

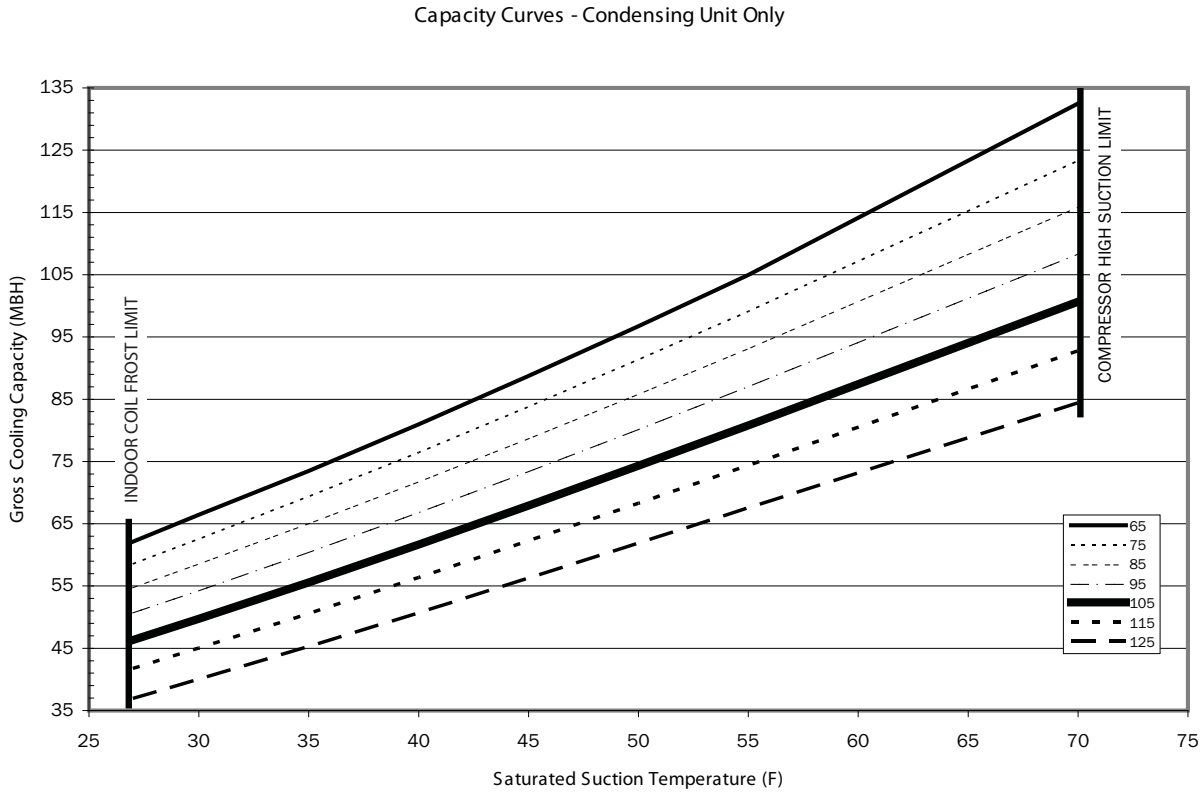


Table 22. Gross Cooling Capacities (MBH) 7.5 Tons TTA090D Condensing Unit Only (IP)

Outdoor Temp (°F)		Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	263.0	279.5	287.6	296.2	305.2	314.7
	Capacity (Btuh/1000)	82.1	89.4	97.5	105.9	114.6	123.7
	Unit Power (kW)	5.2	5.3	5.4	5.6	5.7	5.9
75	Head Press (psig)	310.2	318.4	327.0	336.1	345.5	355.4
	Capacity (Btuh/1000)	77.2	84.7	92.4	100.5	108.9	117.5
	Unit Power (kW)	5.6	5.8	5.9	6.1	6.2	6.4
85	Head Press (psig)	352.3	360.9	370.0	379.5	389.4	399.7
	Capacity (Btuh/1000)	72.7	79.8	87.2	94.9	102.9	111.0
	Unit Power (kW)	6.2	6.4	6.5	6.7	6.8	7.0
95	Head Press (psig)	398.1	407.1	416.6	426.5	436.8	447.6
	Capacity (Btuh/1000)	68.0	74.7	81.8	89.1	96.6	104.4
	Unit Power (kW)	6.9	7.0	7.2	7.3	7.5	7.7
105	Head Press (psig)	447.7	457.3	467.2	477.4	488.1	499.2
	Capacity (Btuh/1000)	63.1	69.5	76.2	83.0	90.2	97.5
	Unit Power (kW)	7.6	7.8	7.9	8.1	8.3	8.4
115	Head Press (psig)	501.4	511.3	521.5	532.1	543.1	554.4
	Capacity (Btuh/1000)	58.1	64.1	70.3	76.7	83.4	90.2
	Unit Power (kW)	8.4	8.6	8.8	8.9	9.1	9.2
125	Head Press (psig)	559.0	569.2	579.6	590.3	601.3	612.4
	Capacity (Btuh/1000)	52.7	58.3	64.0	69.9	76.1	82.3
	Unit Power (kW)	9.4	9.5	9.7	9.8	10.0	10.1

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

Figure 5. TTA090D Capacity Curve

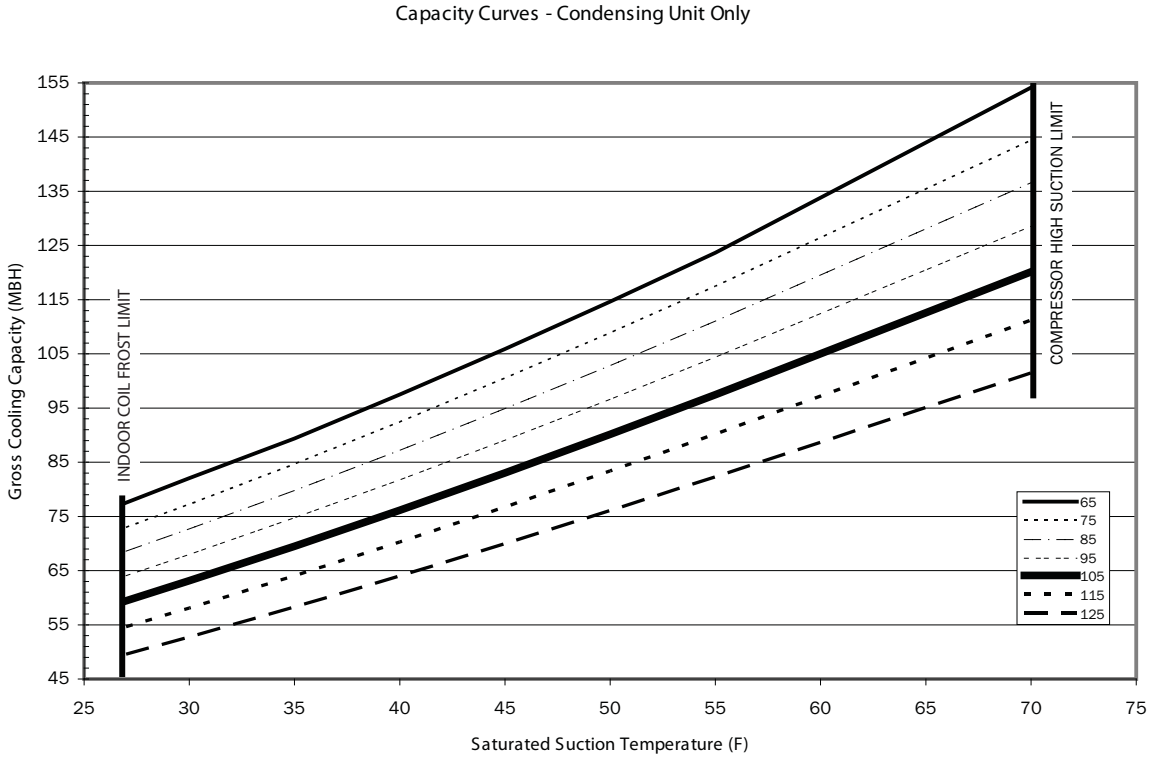


Table 23. Gross Cooling Capacities (MBH) 10 Tons TTA120D Condensing Unit Only (IP)

Outdoor Temp (°F)		Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	255.9	262.9	270.2	278.0	286.0	294.5
	Capacity (Btuh/1000)	98.8	109.9	121.5	133.5	145.9	158.7
	Unit Power (kW)	6.9	7.1	7.2	7.4	7.6	7.7
75	Head Press (psig)	292.9	300.2	307.8	315.7	324.0	332.6
	Capacity (Btuh/1000)	93.8	104.3	115.2	126.6	138.3	150.3
	Unit Power (kW)	7.5	7.7	7.8	8.0	8.2	8.3
85	Head Press (psig)	333.5	341.1	349.0	357.1	365.6	374.3
	Capacity (Btuh/1000)	88.3	98.3	108.7	119.4	130.5	141.8
	Unit Power (kW)	8.2	8.4	8.5	8.7	8.8	9.0
95	Head Press (psig)	377.8	385.7	393.8	402.2	410.9	419.8
	Capacity (Btuh/1000)	82.6	92.0	101.8	112.0	122.4	133.1
	Unit Power (kW)	9.0	9.2	9.3	9.5	9.6	9.8
105	Head Press (psig)	425.9	434.1	442.6	451.4	460.3	469.4
	Capacity (Btuh/1000)	76.5	85.4	94.7	104.3	114.2	124.2
	Unit Power (kW)	9.9	10.1	10.2	10.4	10.5	10.7
115	Head Press (psig)	478.1	486.8	495.6	504.7	513.8	523.1
	Capacity (Btuh/1000)	70.1	78.6	87.3	96.4	105.6	115.0
	Unit Power (kW)	11.0	11.1	11.3	11.4	11.5	11.7
125	Head Press (psig)	534.6	543.9	553.1	562.5	571.8	581.3
	Capacity (Btuh/1000)	63.3	71.3	79.5	88.0	96.6	105.3
	Unit Power (kW)	12.1	12.2	12.4	12.5	12.6	12.7

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

Figure 6. TTA120D Capacity Curve

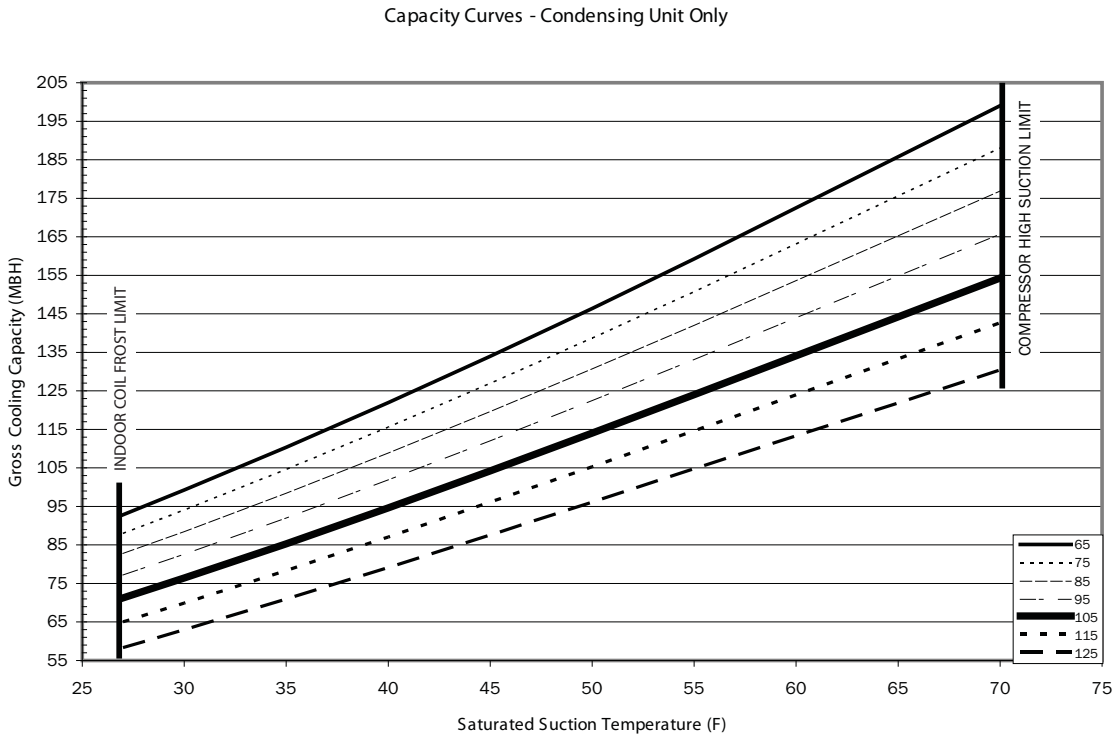


Table 24. Gross Cooling Capacities (MBH) 10 Tons TTA120E Condensing Unit Only (IP)

Outdoor Temp (°F)		Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	253.8	260.4	267.5	274.9	282.6	290.7
	Capacity (Btuh/1000)	99.4	110.4	121.8	133.7	145.9	158.5
	Unit Power (kW)	6.4	6.5	6.6	6.7	6.8	6.9
75	Head Press (psig)	290.3	297.2	304.4	312.0	319.9	328.1
	Capacity (Btuh/1000)	93.7	104.0	114.8	126.0	137.5	149.3
	Unit Power (kW)	7.0	7.1	7.2	7.3	7.4	7.6
85	Head Press (psig)	330.4	337.5	345.0	352.8	360.8	369.2
	Capacity (Btuh/1000)	87.6	97.4	107.6	118.1	129.0	140.0
	Unit Power (kW)	7.7	7.8	8.0	8.1	8.2	8.4
95	Head Press (psig)	374.2	381.5	389.2	397.2	405.4	413.9
	Capacity (Btuh/1000)	81.3	90.4	100.0	110.0	120.2	130.6
	Unit Power (kW)	8.6	8.7	8.9	9.0	9.2	9.3
105	Head Press (psig)	421.7	429.3	437.3	445.5	453.9	462.6
	Capacity (Btuh/1000)	74.7	83.3	92.3	101.7	111.2	121.0
	Unit Power (kW)	9.7	9.8	9.9	10.0	10.2	10.3
115	Head Press (psig)	473.3	481.3	489.5	498.0	506.5	515.3
	Capacity (Btuh/1000)	67.7	75.9	84.3	93.1	102.1	111.2
	Unit Power (kW)	10.8	11.0	11.1	11.2	11.3	11.4
125	Head Press (psig)	529.1	537.5	546.0	554.6	563.4	572.3
	Capacity (Btuh/1000)	60.5	68.2	76.0	84.2	92.6	101.0
	Unit Power (kW)	12.1	12.3	12.4	12.5	12.6	12.7

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

Figure 7. TTA120E Capacity Curve

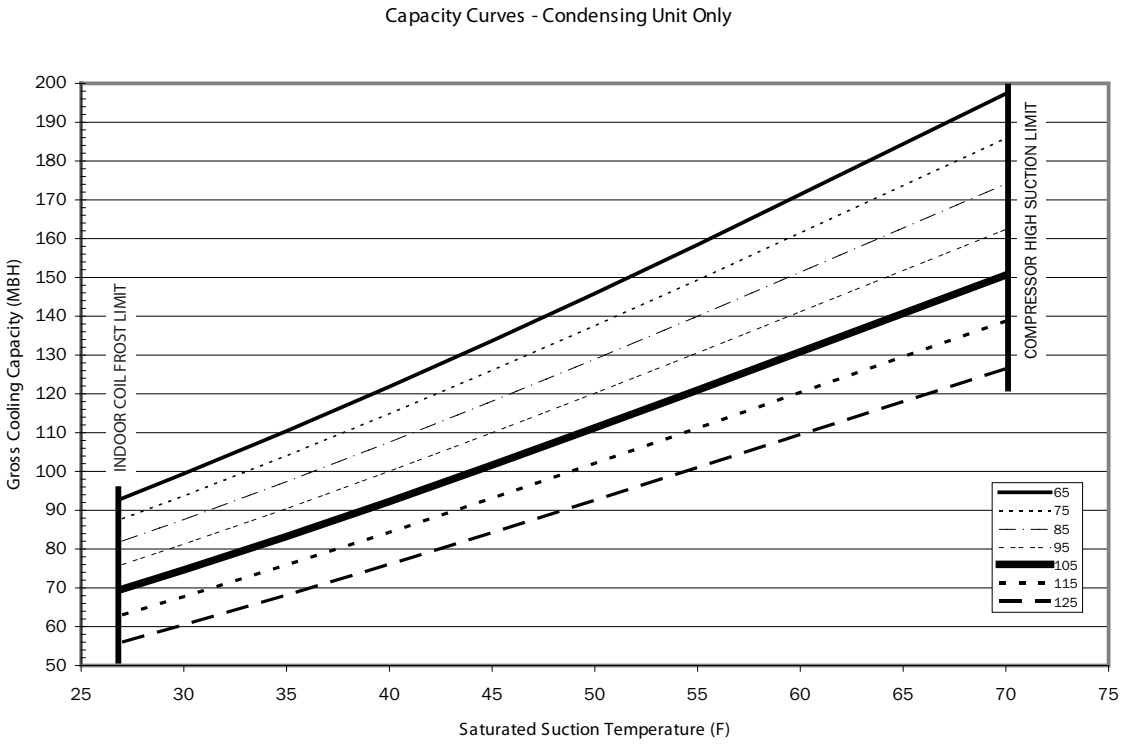


Table 25. Gross Cooling Capacities (MBH) One Compressor - 10 Tons TTA120F Condensing Unit Only (IP)

Outdoor Temp (°F)		Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	216.1	219.4	222.9	226.6	230.3	234.4
	Capacity (Btuh/1000)	48.2	54.2	60.8	67.7	74.7	82.3
	Unit Power (kW)	3.5	3.5	3.5	3.5	3.5	3.5
75	Head Press (psig)	250.3	253.7	257.3	261.1	265.1	269.2
	Capacity (Btuh/1000)	45.9	51.6	57.7	64.3	71.1	78.3
	Unit Power (kW)	3.8	3.8	3.8	3.8	3.8	3.9
85	Head Press (psig)	288.2	291.7	295.4	299.3	303.4	307.5
	Capacity (Btuh/1000)	43.4	48.9	54.6	60.8	67.3	74.0
	Unit Power (kW)	4.1	4.1	4.2	4.2	4.2	4.2
95	Head Press (psig)	329.7	333.4	337.2	341.1	345.3	349.5
	Capacity (Btuh/1000)	40.8	46.0	51.4	57.2	63.3	69.7
	Unit Power (kW)	4.5	4.5	4.6	4.6	4.6	4.6
105	Head Press (psig)	375.2	378.9	382.8	386.9	391.1	395.5
	Capacity (Btuh/1000)	37.9	42.9	48.1	53.5	59.2	65.1
	Unit Power (kW)	5.0	5.0	5.0	5.1	5.1	5.1
115	Head Press (psig)	424.6	428.5	432.6	436.7	441.0	445.5
	Capacity (Btuh/1000)	34.9	39.6	44.5	49.6	54.9	60.4
	Unit Power (kW)	5.5	5.5	5.6	5.6	5.6	5.6
125	Head Press (psig)	478.3	482.4	486.5	490.7	495.0	499.3
	Capacity (Btuh/1000)	31.6	36.1	40.7	45.4	50.3	55.3
	Unit Power (kW)	6.1	6.1	6.1	6.2	6.2	6.2

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

Figure 8. TTA120F - One Compressor - Capacity Curve

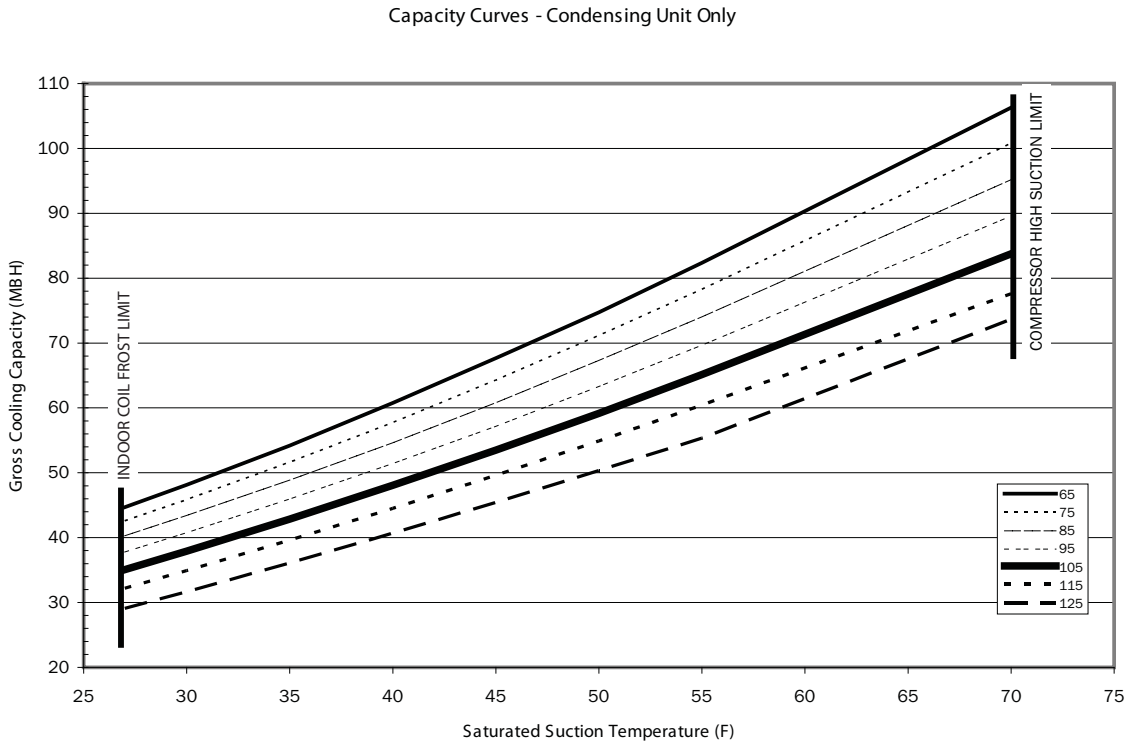


Table 26. Gross Cooling Capacities (MBH) Both Compressors - 10 Tons TTA120F Condensing Unit Only (IP)

Outdoor Temp (°F)		Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	255.3	262.3	269.6	277.3	285.3	293.7
	Capacity (Btuh/1000)	100.9	112.0	123.6	135.8	148.3	161.3
	Unit Power (kW)	6.5	6.6	6.7	6.8	7.0	7.1
75	Head Press (psig)	291.9	299.1	306.6	314.5	322.7	331.3
	Capacity (Btuh/1000)	95.7	106.2	117.3	128.7	140.6	152.9
	Unit Power (kW)	7.2	7.3	7.4	7.6	7.7	7.9
85	Head Press (psig)	331.9	339.4	347.2	355.3	363.7	372.5
	Capacity (Btuh/1000)	90.2	100.2	110.6	121.5	132.8	144.3
	Unit Power (kW)	8.0	8.1	8.3	8.4	8.6	8.7
95	Head Press (psig)	375.4	383.2	391.3	399.6	408.3	417.2
	Capacity (Btuh/1000)	84.4	93.9	103.8	114.1	124.7	135.5
	Unit Power (kW)	9.0	9.1	9.2	9.4	9.5	9.6
105	Head Press (psig)	422.5	430.6	439.0	447.6	456.5	465.6
	Capacity (Btuh/1000)	78.2	87.3	96.6	106.3	116.3	126.5
	Unit Power (kW)	10.0	10.1	10.3	10.4	10.5	10.7
115	Head Press (psig)	473.4	481.9	490.6	499.4	508.5	517.7
	Capacity (Btuh/1000)	71.8	80.4	89.2	98.4	107.7	117.2
	Unit Power (kW)	11.2	11.3	11.4	11.5	11.6	11.8
125	Head Press (psig)	527.9	536.8	545.8	554.9	564.1	573.3
	Capacity (Btuh/1000)	65.0	73.1	81.4	89.9	98.6	107.4
	Unit Power (kW)	12.4	12.5	12.6	12.7	12.8	12.9

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

Figure 9. TTA120F - Both Compressors - Capacity Curve

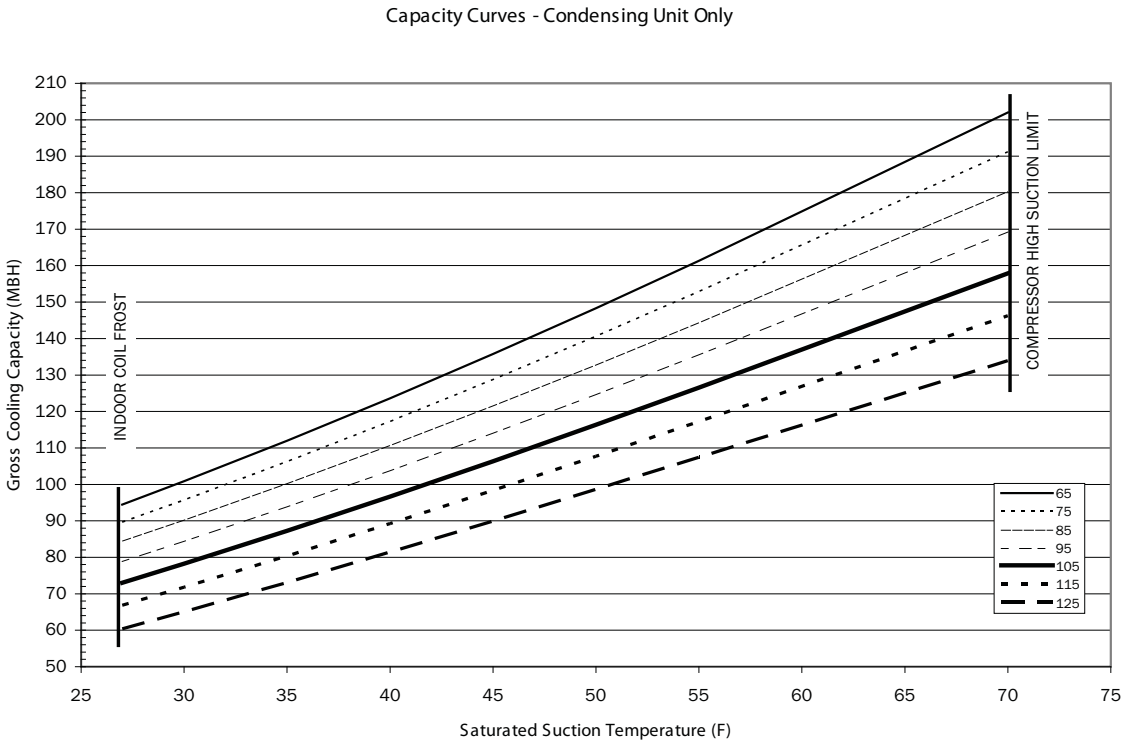


Table 27. Gross Cooling Capacities (MBH) 12.5 Tons TTA150E Condensing Unit Only (IP)

Outdoor Temp (°F)		Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	271.8	279.9	288.4	297.2	306.4	316.1
	Capacity (Btuh/1000)	131.3	145.2	159.6	174.5	189.8	205.4
	Unit Power (kW)	9.0	9.1	9.2	9.3	9.5	9.6
75	Head Press (psig)	309.7	318.0	326.8	335.9	345.4	355.2
	Capacity (Btuh/1000)	123.8	137.0	150.6	164.7	179.1	193.7
	Unit Power (kW)	9.8	9.9	10.1	10.2	10.4	10.5
85	Head Press (psig)	350.9	359.6	368.6	378.0	387.8	397.8
	Capacity (Btuh/1000)	115.8	128.3	141.2	154.5	168.1	181.9
	Unit Power (kW)	10.7	10.9	11.0	11.2	11.4	11.6
95	Head Press (psig)	395.5	404.6	414.0	423.6	433.6	443.9
	Capacity (Btuh/1000)	107.3	119.2	131.5	144.0	156.9	169.9
	Unit Power (kW)	11.8	12.0	12.1	12.3	12.5	12.6
105	Head Press (psig)	443.7	453.3	463.1	473.2	483.5	494.0
	Capacity (Btuh/1000)	98.3	109.7	121.4	133.3	145.4	157.7
	Unit Power (kW)	13.1	13.2	13.4	13.5	13.7	13.8
115	Head Press (psig)	495.8	505.8	516.0	526.5	537.2	547.9
	Capacity (Btuh/1000)	89.0	99.8	110.9	122.2	133.6	145.1
	Unit Power (kW)	14.4	14.6	14.7	14.9	15.0	15.1
125	Head Press (psig)	551.8	562.5	573.2	583.8	594.7	605.6
	Capacity (Btuh/1000)	79.2	89.4	99.9	110.5	121.2	131.9
	Unit Power (kW)	15.9	16.0	16.2	16.3	16.4	16.5

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

Figure 10. TTA150E Capacity Curve

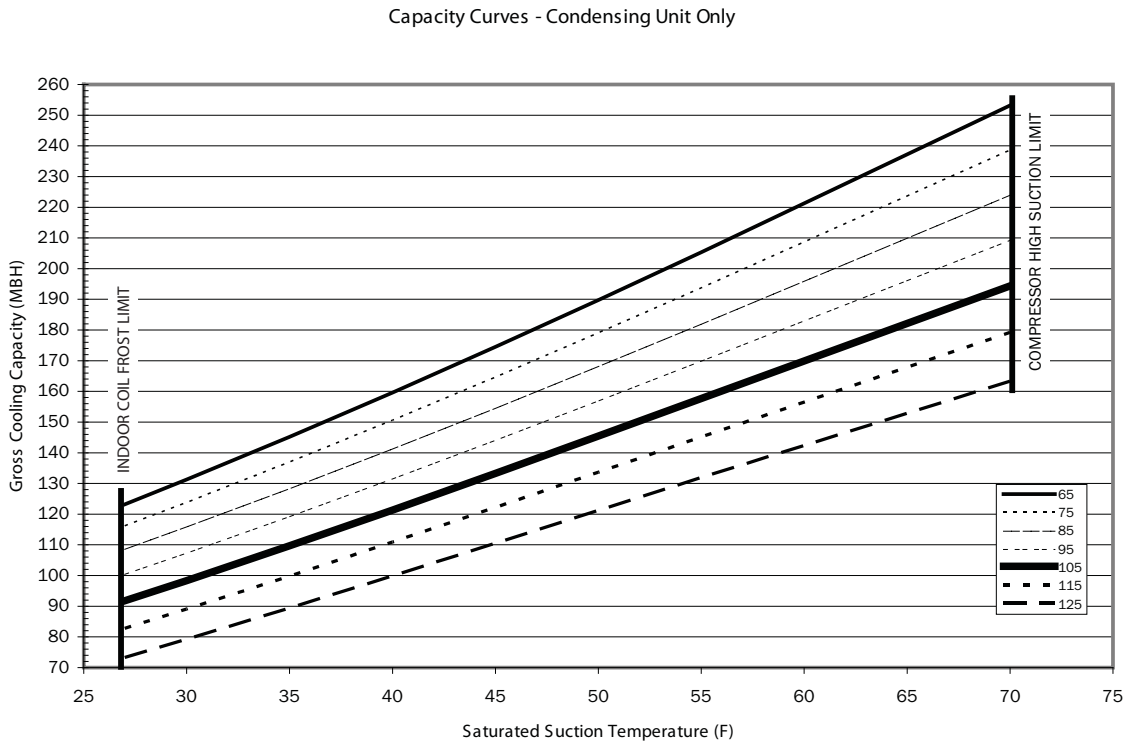
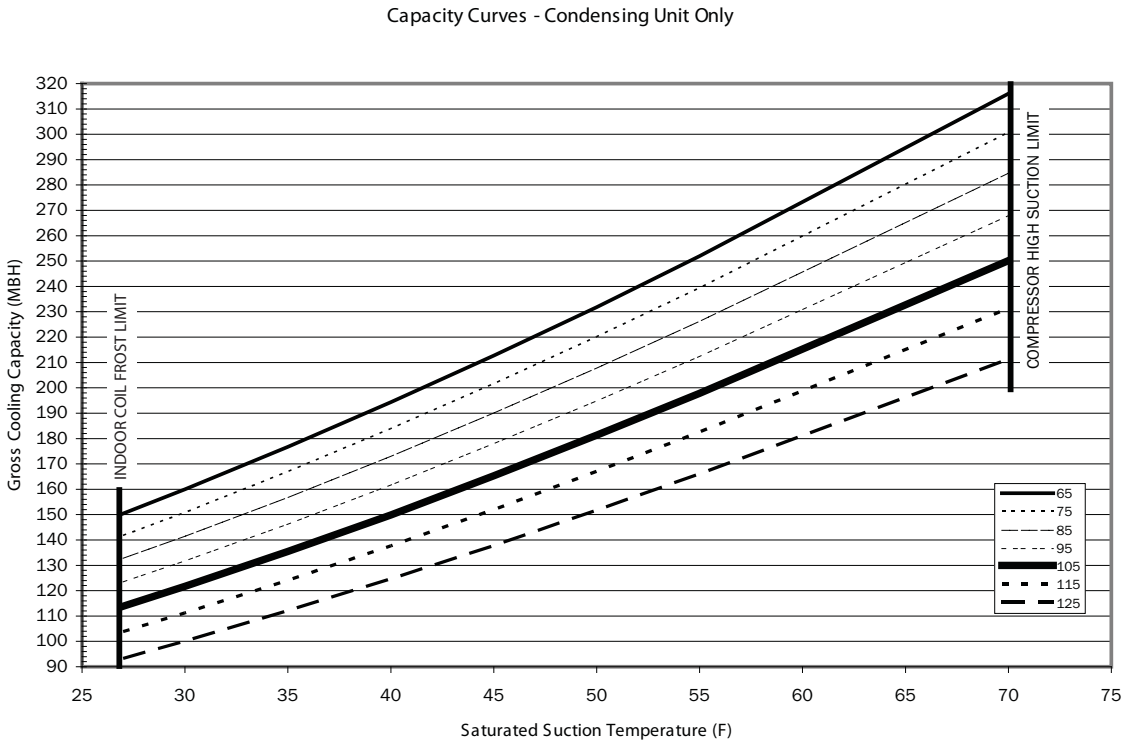


Table 28. Gross Cooling Capacities (MBH) 15 Tons TTA180E Condensing Unit Only (IP)

Outdoor Temp (°F)		Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	239.0	243.9	249.0	254.5	260.2	266.2
	Capacity (Btuh/1000)	160.0	176.7	194.3	212.8	231.8	252.0
	Unit Power (kW)	10.6	10.8	11.0	11.2	11.4	11.6
75	Head Press (psig)	274.6	279.8	285.2	290.9	296.9	303.2
	Capacity (Btuh/1000)	150.8	166.9	183.9	201.7	220.2	239.4
	Unit Power (kW)	11.4	11.6	11.8	12.0	12.2	12.5
85	Head Press (psig)	313.9	319.3	325.0	330.9	337.2	343.6
	Capacity (Btuh/1000)	141.5	156.7	173.0	190.1	207.8	226.2
	Unit Power (kW)	12.3	12.5	12.8	13.0	13.2	13.5
95	Head Press (psig)	356.8	362.5	368.4	374.6	381.0	387.7
	Capacity (Btuh/1000)	131.8	146.3	161.7	178.0	194.9	212.4
	Unit Power (kW)	13.5	13.7	13.9	14.1	14.4	14.6
105	Head Press (psig)	403.5	409.4	415.4	421.8	428.4	435.3
	Capacity (Btuh/1000)	121.7	135.4	149.9	165.3	181.3	197.9
	Unit Power (kW)	14.8	15.0	15.2	15.4	15.7	15.9
115	Head Press (psig)	454.2	460.3	466.5	472.9	479.7	486.7
	Capacity (Btuh/1000)	111.2	124.1	137.6	152.0	167.0	182.5
	Unit Power (kW)	16.3	16.5	16.7	16.9	17.1	17.3
125	Head Press (psig)	508.9	515.0	521.3	527.8	534.5	541.5
	Capacity (Btuh/1000)	100.1	112.0	124.6	137.7	151.7	166.1
	Unit Power (kW)	18.0	18.1	18.3	18.5	18.7	18.9

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

Figure 11. TTA180E Capacity Curve



Performance Data

Table 29. Gross Cooling Capacities (MBH) One Compressor - 15 Tons TTA180F Condensing Unit Only (IP)

Outdoor Temp (°F)		Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	238.6	243.4	248.5	253.8	259.5	265.4
	Capacity (Btuh/1000)	165.0	181.0	197.9	215.6	234.1	253.4
	Unit Power (kW)	10.7	10.9	11.1	11.3	11.6	11.8
75	Head Press (psig)	274.3	279.3	284.6	290.2	296.1	302.2
	Capacity (Btuh/1000)	156.6	172.0	188.2	205.3	223.0	241.5
	Unit Power (kW)	11.5	11.7	11.9	12.1	12.4	12.6
85	Head Press (psig)	313.5	318.8	324.3	330.2	336.3	342.6
	Capacity (Btuh/1000)	147.9	162.6	178.2	194.4	211.4	229.0
	Unit Power (kW)	12.5	12.7	12.9	13.1	13.4	13.6
95	Head Press (psig)	356.4	361.9	367.7	373.7	380.0	386.6
	Capacity (Btuh/1000)	138.8	152.8	167.6	183.1	199.2	215.9
	Unit Power (kW)	13.6	13.8	14.1	14.3	14.5	14.7
105	Head Press (psig)	403.1	408.8	414.8	420.9	427.4	434.1
	Capacity (Btuh/1000)	129.3	142.6	156.5	171.1	186.2	202.0
	Unit Power (kW)	15.0	15.2	15.4	15.6	15.8	16.0
115	Head Press (psig)	453.8	459.7	465.7	472.0	478.6	485.4
	Capacity (Btuh/1000)	119.3	131.8	144.8	158.4	172.6	187.3
	Unit Power (kW)	16.5	16.7	16.9	17.1	17.3	17.5
125	Head Press (psig)	508.4	514.4	520.5	526.8	533.4	540.2
	Capacity (Btuh/1000)	108.7	120.2	132.2	144.8	157.9	171.4
	Unit Power (kW)	18.1	18.3	18.5	18.7	18.9	19.1

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

Figure 12. TTA180F - One Compressor - Capacity Curve

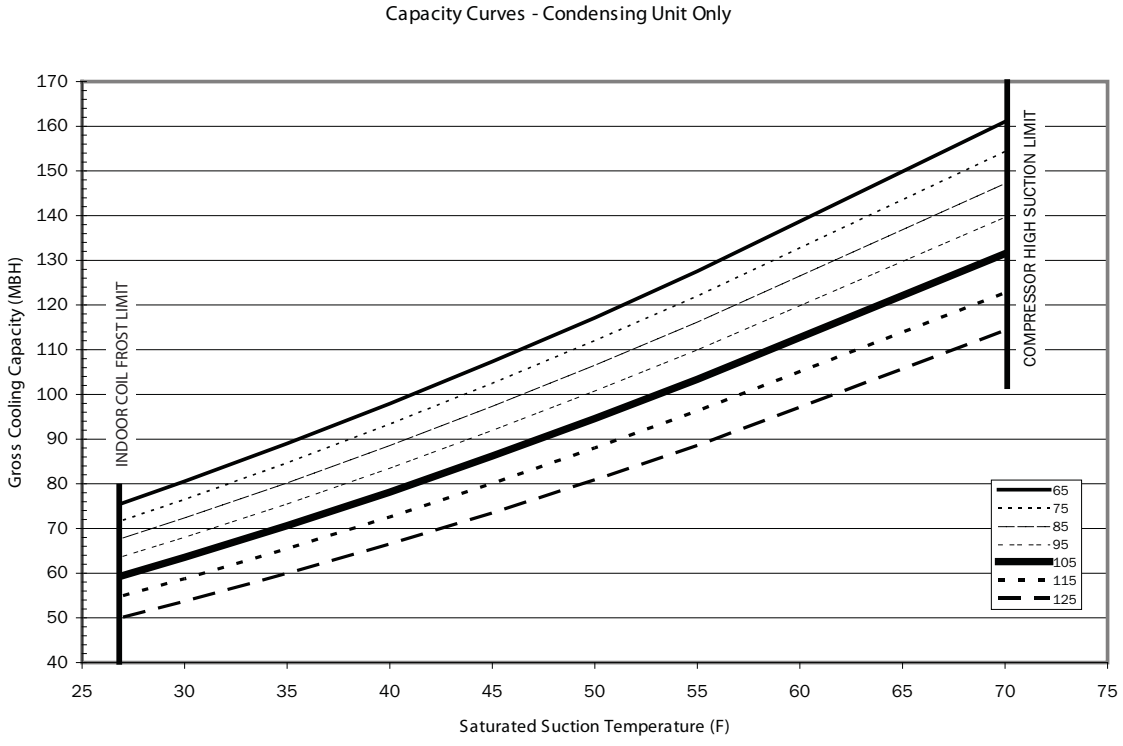
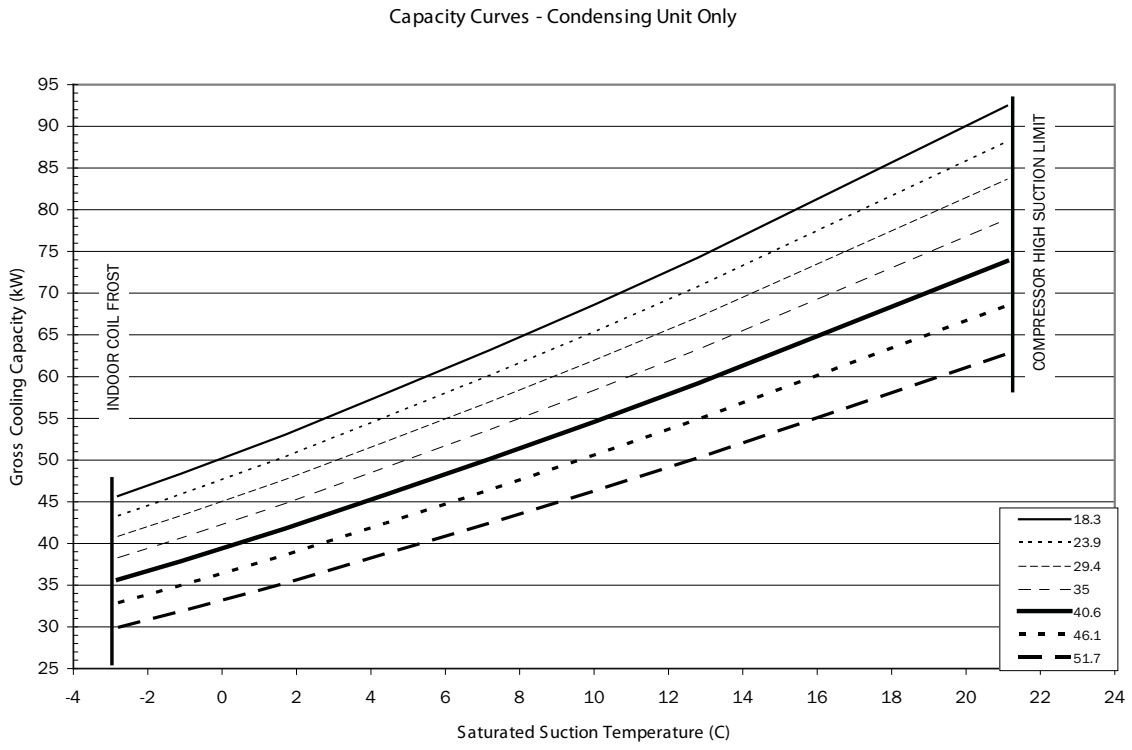


Table 30. Gross Cooling Capacities (MBH) Both Compressors - 15 Tons TTA180F Condensing Unit Only (IP)

Outdoor Temp (°F)		Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	237.3	241.9	246.9	252.2	257.7	263.5
	Capacity (Btuh/1000)	164.8	180.6	197.4	214.9	233.3	252.4
	Unit Power (kW)	10.7	10.9	11.1	11.3	11.5	11.8
75	Head Press (psig)	272.7	277.7	282.9	288.3	294.1	300.1
	Capacity (Btuh/1000)	156.3	171.6	187.7	204.5	222.1	240.3
	Unit Power (kW)	11.5	11.7	11.9	12.1	12.3	12.6
85	Head Press (psig)	311.8	316.9	322.4	328.0	334.0	340.2
	Capacity (Btuh/1000)	147.5	162.1	177.5	193.5	210.3	227.7
	Unit Power (kW)	12.4	12.6	12.9	13.1	13.3	13.5
95	Head Press (psig)	354.5	359.9	365.5	371.4	377.5	383.9
	Capacity (Btuh/1000)	138.3	152.2	166.8	182.0	197.8	214.3
	Unit Power (kW)	13.6	13.8	14.0	14.2	14.4	14.7
105	Head Press (psig)	401.0	406.5	412.3	418.3	424.6	431.0
	Capacity (Btuh/1000)	128.7	141.8	155.5	169.8	184.6	199.9
	Unit Power (kW)	14.9	15.1	15.3	15.5	15.7	16.0
115	Head Press (psig)	451.4	457.1	463.0	468.9	475.2	481.7
	Capacity (Btuh/1000)	118.6	130.8	143.6	156.7	170.3	184.4
	Unit Power (kW)	16.4	16.6	16.8	17.0	17.2	17.4
125	Head Press (psig)	505.7	511.4	517.2	523.2	529.4	535.8
	Capacity (Btuh/1000)	107.7	118.8	130.4	142.4	154.9	167.6
	Unit Power (kW)	18.0	18.2	18.4	18.6	18.8	18.9

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

Figure 13. TTA180F - Both Compressors - Capacity Curve



Performance Data

Table 31. Gross Cooling Capacities (MBH) 20 Tons TTA240E Condensing Unit Only (IP)

Outdoor Temp (°F)		Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	270.6	278.9	287.7	297.0	306.7	316.8
	Capacity (Btuh/1000)	240.3	265.6	292.1	319.9	348.8	378.7
	Unit Power (kW)	16.3	16.8	17.3	17.8	18.3	18.9
75	Head Press (psig)	308.8	317.5	326.6	336.2	346.1	356.5
	Capacity (Btuh/1000)	228.7	252.7	277.8	304.1	331.4	359.6
	Unit Power (kW)	17.6	18.0	18.6	19.1	19.7	20.2
85	Head Press (psig)	350.6	359.6	369.0	378.8	389.0	399.6
	Capacity (Btuh/1000)	216.3	238.9	262.7	287.5	313.2	339.7
	Unit Power (kW)	19.0	19.5	20.1	20.6	21.2	21.8
95	Head Press (psig)	396.0	405.2	414.9	424.9	435.4	446.2
	Capacity (Btuh/1000)	203.1	224.4	246.7	270.0	294.1	319.0
	Unit Power (kW)	20.7	21.2	21.8	22.3	22.9	23.5
105	Head Press (psig)	445.1	454.7	464.7	475.0	485.7	496.7
	Capacity (Btuh/1000)	189.1	209.1	230.0	251.8	274.3	297.5
	Unit Power (kW)	22.7	23.2	23.7	24.2	24.8	25.3
115	Head Press (psig)	498.3	508.2	518.4	528.9	539.7	550.8
	Capacity (Btuh/1000)	174.3	192.9	212.4	232.6	253.5	274.9
	Unit Power (kW)	24.8	25.3	25.8	26.3	26.9	27.4
125	Head Press (psig)	555.5	565.7	576.0	586.6	597.4	608.4
	Capacity (Btuh/1000)	158.5	175.7	193.6	212.1	231.2	250.6
	Unit Power (kW)	27.1	27.6	28.1	28.6	29.1	29.6

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

Figure 14. TTA240E Capacity Curve

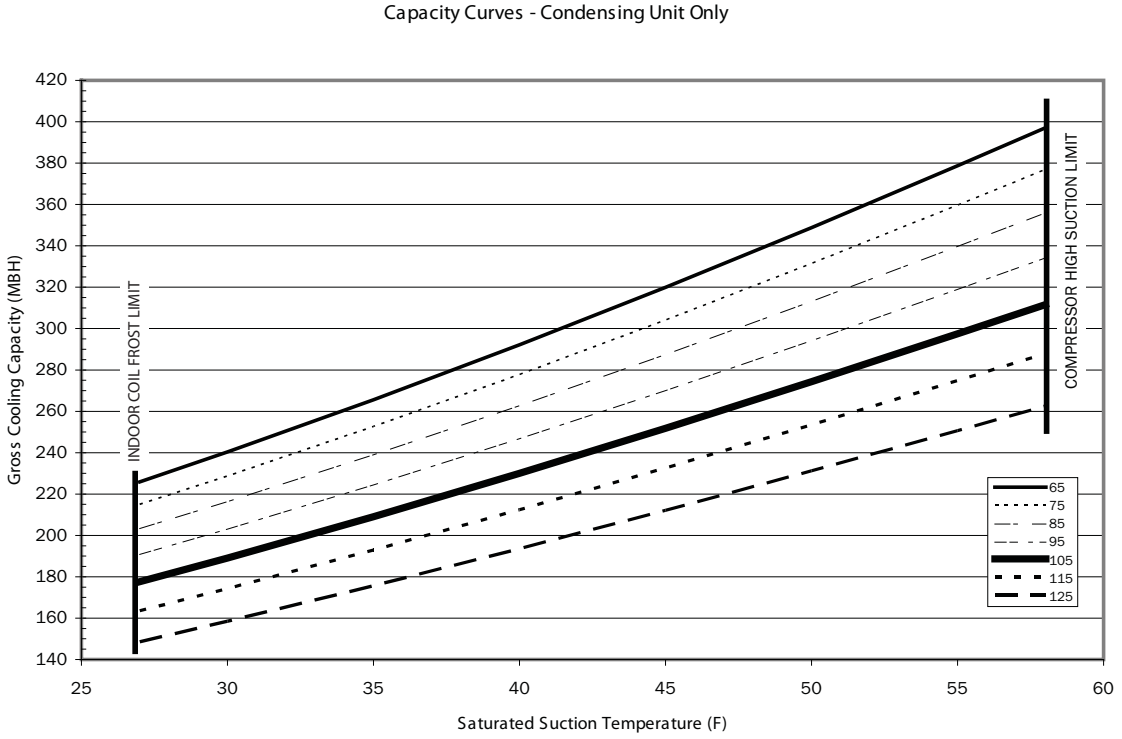


Table 32. Gross Cooling Capacities (MBH) One Compressor - 20 Tons TTA240F Condensing Unit Only (IP)

Outdoor Temp (°F)		Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	269.0	277.3	286.1	295.4	305.1	315.3
	Capacity (Btuh/1000)	238.4	263.5	289.8	317.2	345.7	375.2
	Unit Power (kW)	16.3	16.7	17.2	17.8	18.3	18.9
75	Head Press (psig)	306.5	315.0	324.0	333.5	343.5	353.8
	Capacity (Btuh/1000)	226.5	250.2	275.1	301.0	327.9	355.5
	Unit Power (kW)	17.5	18.0	18.5	19.0	19.6	20.2
85	Head Press (psig)	347.3	356.1	365.3	375.0	385.1	395.6
	Capacity (Btuh/1000)	213.8	236.2	259.6	283.9	309.1	335.1
	Unit Power (kW)	18.9	19.4	20.0	20.5	21.1	21.7
95	Head Press (psig)	391.6	400.6	410.0	419.8	430.0	440.6
	Capacity (Btuh/1000)	200.2	221.3	243.2	266.0	289.5	313.7
	Unit Power (kW)	20.6	21.1	21.6	22.2	22.7	23.3
105	Head Press (psig)	439.4	448.6	458.3	468.3	478.6	489.3
	Capacity (Btuh/1000)	185.9	205.6	226.1	247.3	269.2	291.6
	Unit Power (kW)	22.5	23.0	23.5	24.0	24.6	25.1
115	Head Press (psig)	491.0	500.4	510.1	520.2	530.6	541.4
	Capacity (Btuh/1000)	170.8	189.1	208.0	227.7	247.9	268.5
	Unit Power (kW)	24.6	25.0	25.5	26.0	26.6	27.1
125	Head Press (psig)	546.2	555.7	565.5	575.6	586.0	596.5
	Capacity (Btuh/1000)	154.7	171.5	188.8	206.8	225.2	243.9
	Unit Power (kW)	26.8	27.3	27.7	28.2	28.7	29.2

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

Figure 15. TTA240F - One Compressor - Capacity Curves

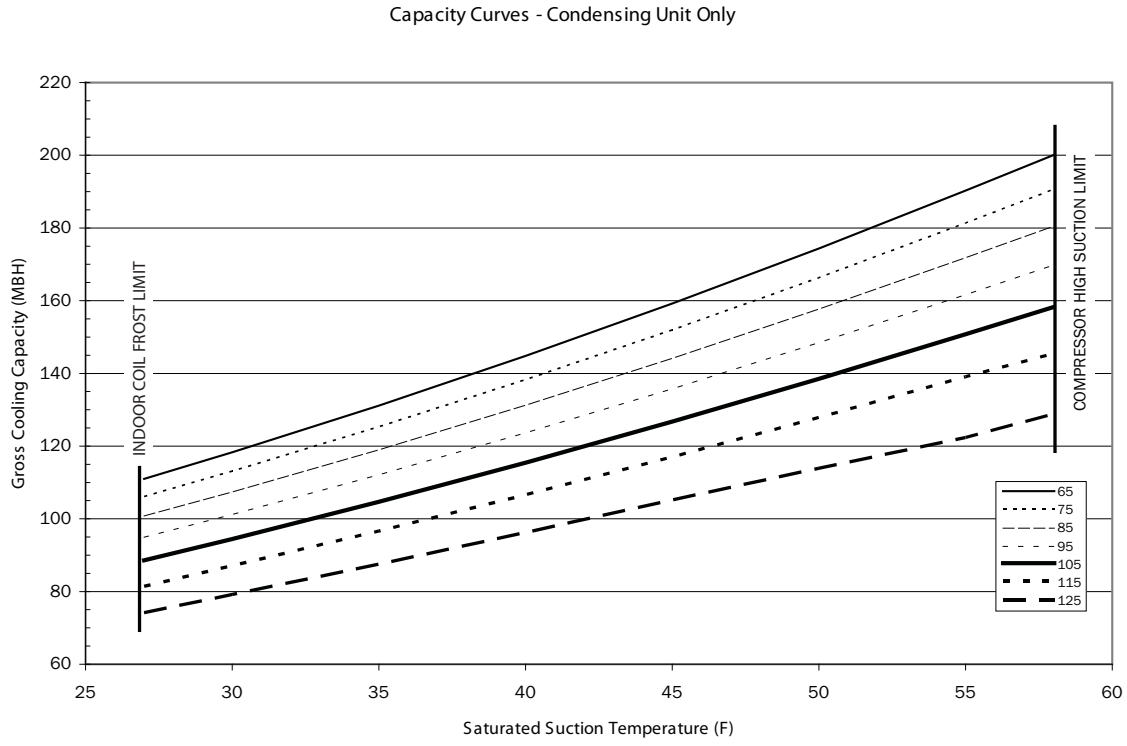


Table 33. Gross Cooling Capacities (MBH) Both Compressors - 20 Tons TTA240F Condensing Unit Only (IP)

Outdoor Temp (°F)		Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	269.0	277.3	286.1	295.4	305.1	315.3
	Capacity (Btuh/1000)	238.4	263.5	289.8	317.2	345.7	375.2
	Unit Power (kW)	16.3	16.7	17.2	17.8	18.3	18.9
75	Head Press (psig)	306.5	315.0	324.0	333.5	343.5	353.8
	Capacity (Btuh/1000)	226.5	250.2	275.1	301.0	327.9	355.5
	Unit Power (kW)	17.5	18.0	18.5	19.0	19.6	20.2
85	Head Press (psig)	347.3	356.1	365.3	375.0	385.1	395.6
	Capacity (Btuh/1000)	213.8	236.2	259.6	283.9	309.1	335.1
	Unit Power (kW)	18.9	19.4	20.0	20.5	21.1	21.7
95	Head Press (psig)	391.6	400.6	410.0	419.8	430.0	440.6
	Capacity (Btuh/1000)	200.2	221.3	243.2	266.0	289.5	313.7
	Unit Power (kW)	20.6	21.1	21.6	22.2	22.7	23.3
105	Head Press (psig)	439.4	448.6	458.3	468.3	478.6	489.3
	Capacity (Btuh/1000)	185.9	205.6	226.1	247.3	269.2	291.6
	Unit Power (kW)	22.5	23.0	23.5	24.0	24.6	25.1
115	Head Press (psig)	491.0	500.4	510.1	520.2	530.6	541.4
	Capacity (Btuh/1000)	170.8	189.1	208.0	227.7	247.9	268.5
	Unit Power (kW)	24.6	25.0	25.5	26.0	26.6	27.1
125	Head Press (psig)	546.2	555.7	565.5	575.6	586.0	596.5
	Capacity (Btuh/1000)	154.7	171.5	188.8	206.8	225.2	243.9
	Unit Power (kW)	26.8	27.3	27.7	28.2	28.7	29.2

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

Figure 16. TTA240F - Both Compressors - Capacity Curves

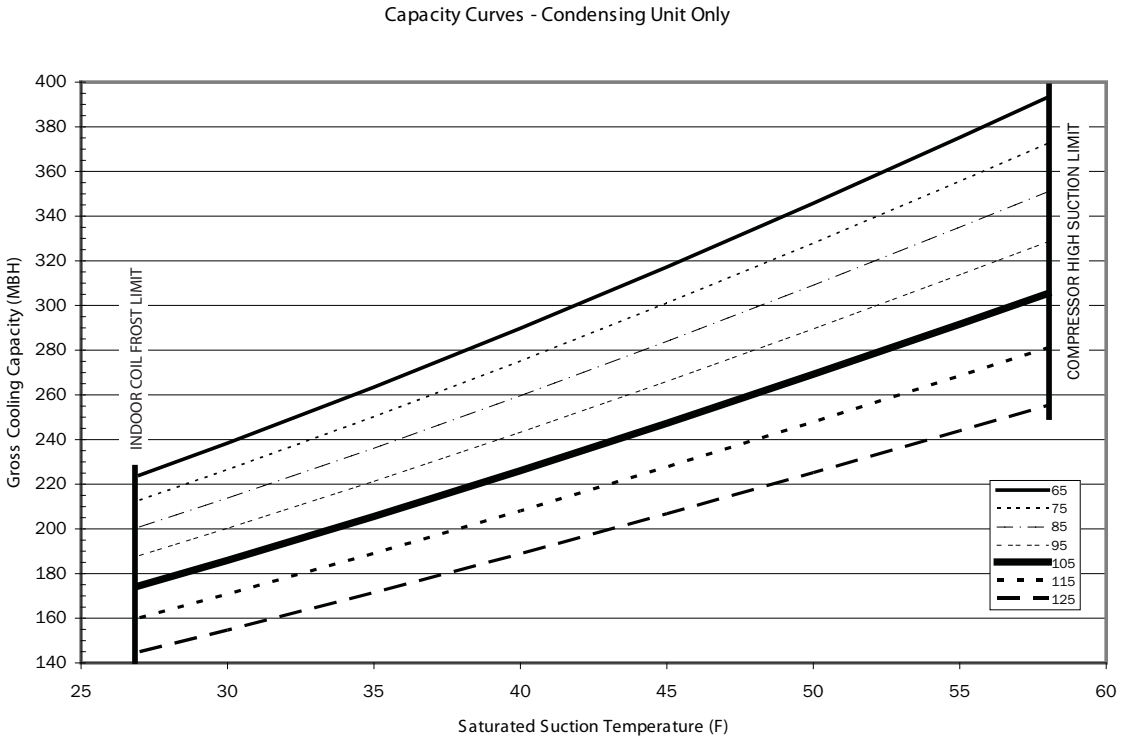


Table 34. Evaporator Fan Performance —TWE061 — Air Handler

	External Static Pressure (Inches of Water Gauge)																			
	.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
3/4 HP Standard Motor & Drive																				
1600	—	—	738	0.33	790	0.38	840	0.44	888	0.50	936	0.56	980	0.62	1025	0.69	1070	0.76	1111	0.83
1700	719	0.33	771	0.38	821	0.44	869	0.50	914	0.56	959	0.62	1003	0.68	1047	0.75	1089	0.82	1129	0.90
1800	756	0.39	804	0.44	853	0.50	898	0.56	942	0.62	985	0.69	1028	0.75	1068	0.82	1109	0.89	1149	0.97
1900	792	0.45	838	0.51	884	0.57	928	0.63	971	0.69	1012	0.76	1052	0.83	1092	0.90	1131	0.97	1170	1.05
2000	829	0.52	873	0.58	917	0.64	959	0.71	1000	0.77	1040	0.84	1079	0.91	1117	0.98	1155	1.06	1192	1.14
2100	866	0.60	908	0.66	950	0.72	991	0.79	1030	0.86	1069	0.93	1106	1.00	1144	1.08	1179	1.15	1215	1.23
2200	903	0.68	944	0.74	983	0.81	1023	0.88	1061	0.95	1099	1.02	1134	1.10	1170	1.18	1206	1.26	1241	1.34
2300	940	0.78	979	0.84	1017	0.90	1055	0.97	1093	1.05	1129	1.13	1164	1.21	1198	1.28	1232	1.37	1266	1.45
2400	978	0.88	1015	0.94	1052	1.01	1089	1.08	1125	1.16	1160	1.24	1194	1.32	1227	1.40	1259	1.48	1292	1.57

	External Static Pressure (Inches of Water Gauge)							
	1.10"		1.20"		1.30"		1.40"	
CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1.5 HP High Static Kit								
1600	1152	0.91	1191	0.99	1229	1.07	1264	1.14
1700	1170	0.98	1208	1.06	1246	1.14	1281	1.22
1800	1187	1.05	1226	1.13	1263	1.22	1300	1.30
1900	1207	1.13	1245	1.21	1281	1.30	1317	1.39
2000	1227	1.21	1265	1.30	1300	1.39	1335	1.48
2100	1250	1.31	1285	1.39	1319	1.48	—	—
2200	1274	1.42	1308	1.50	—	—	—	—
2300	1299	1.53	—	—	—	—	—	—
2400	—	—	—	—	—	—	—	—

Notes:
1. Data includes pressure drop due to wet coil and 1" filter.
2. Fan motor heat (MBh) = 3.15 x BHP.
3. Trane's 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.
4. For TWE061 Standard Drive use Table 41, p. 59, for High Static Drive use Table 42, p. 60.

Table 35. Evaporator Fan Performance —TWE090 — Air Handler

External Static Pressure (Inches of Water Gauge)																				
	.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
	1.5 HP Standard Drive														2 HP High Static Drive Kit					
2400	—	—	572	0.52	634	0.62	691	0.74	744	0.85	795	0.96	844	1.08	892	1.21	939	1.35	982	1.49
2550	—	—	592	0.59	652	0.70	707	0.82	759	0.95	809	1.06	856	1.18	902	1.31	947	1.45	990	1.59
2700	—	—	612	0.67	670	0.79	724	0.91	774	1.05	822	1.18	868	1.29	913	1.42	957	1.56	999	1.71
2850	575	0.68	633	0.73	689	0.89	741	1.01	790	1.15	837	1.29	882	1.42	925	1.55	967	1.68	1008	1.83
3000	599	0.76	654	0.82	709	0.99	760	1.13	807	1.26	853	1.41	896	1.56	939	1.69	980	1.82	1020	1.97
3150	623	0.85	675	0.93	729	1.11	778	1.25	825	1.39	869	1.54	911	1.70	953	1.85	992	1.98	1031	2.12
3300	647	0.95	697	1.09	749	1.22	797	1.38	842	1.52	886	1.67	927	1.83	967	2.00	1007	2.15	1045	2.30
3450	673	1.08	724	1.26	770	1.32	816	1.52	861	1.67	903	1.82	943	1.98	983	2.16	1020	2.33	1058	2.48
3600	698	1.21	746	1.43	790	1.43	836	1.67	880	1.83	922	1.98	961	2.14	999	2.32	1037	2.51	1073	2.68
													3 HP Ultra High Static Drive Kit							

External Static Pressure (Inches of Water Gauge)																				
	1.10"		1.20"		1.30"		1.40"		1.50"		1.60"		1.70"		1.80"		1.90		2.00	
CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	2 HP High Static Drive Kit								3 HP Ultra High Static Drive Kit											
2400	1023	1.62	1062	1.75	1101	1.89	1137	2.03	1172	2.16	1207	2.30	1241	2.44	1273	2.58	1303	2.71	1334	2.85
2550	1032	1.74	1071	1.88	1109	2.03	1145	2.17	1181	2.32	1215	2.46	1248	2.61	1281	2.75	1311	2.89	1341	3.04
2700	1040	1.86	1079	2.01	1117	2.17	1154	2.32	1189	2.47	1223	2.62	1255	2.77	1288	2.93	—	—	—	—
2850	1048	1.99	1087	2.14	1126	2.31	1161	2.47	1198	2.63	1232	2.79	1264	2.95	—	—	—	—	—	—
3000	1058	2.12	1096	2.29	1135	2.46	1171	2.63	1206	2.80	1239	2.96	—	—	—	—	—	—	—	—
3150	1069	2.27	1105	2.43	1142	2.60	1179	2.79	1214	2.96	—	—	—	—	—	—	—	—	—	—
3300	1082	2.45	1118	2.61	1154	2.78	1187	2.95	—	—	—	—	—	—	—	—	—	—	—	—
3450	1094	2.63	1130	2.79	1164	2.96	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3600	1107	2.84	1144	3.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Notes:

1. Data includes pressure drop due to wet coil and 1" filter.
2. Fan motor heat (MBh) = 3.15 x BHP.
3. Trane's 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.
4. For TWE090 Standard Drive use Table 41, p. 59, for High Static Drive use Table 42, p. 60, for Ultra High Static Drive use Table 43, p. 61.

Table 36. Evaporator Fan Performance —TWE120 — Air Handler

	External Static Pressure (Inches of Water Gauge)																			
	.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
	2 HP Standard Drive																			
3200	—	—	—	—	588	0.87	625	0.95	658	1.03	691	1.13	722	1.22	753	1.32	783	1.40	812	1.48
3400	—	—	—	—	611	1.01	646	1.09	679	1.18	711	1.27	742	1.38	771	1.48	799	1.57	828	1.67
3600	—	—	598	1.04	634	1.16	668	1.26	700	1.34	731	1.44	761	1.54	789	1.65	817	1.76	844	1.86
3800	588	1.17	624	1.24	658	1.29	691	1.43	722	1.53	752	1.62	781	1.72	809	1.83	835	1.95	862	2.07
4000	616	1.34	651	1.47	682	1.45	714	1.63	745	1.73	774	1.83	801	1.93	829	2.04	855	2.16	880	2.28
4200	643	1.52	677	1.70	706	1.65	738	1.81	767	1.95	795	2.05	823	2.15	849	2.26	874	2.38	899	2.50
4400	670	1.74	703	1.94	731	1.90	761	2.00	790	2.19	818	2.29	844	2.40	870	2.51	895	2.63	919	2.75
4600	698	1.97	729	2.19	756	2.20	785	2.21	814	2.44	840	2.56	866	2.67	891	2.78	915	2.90	—	—
4800	726	2.23	755	2.46	785	2.53	809	2.47	837	2.65	863	2.85	889	2.96	—	—	—	—	—	—

	3 HP Hi Static Drive Kit																			
	External Static Pressure (Inches of Water Gauge)																			
	1.10"		1.20"		1.30"		1.40"		1.50"		1.60"		1.70"		1.80"		1.90		2.00	
CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	3 HP Hi Static Drive Kit										3 HP High Static Drive w/ Field Supplied Sheave & Belt									
3200	839	1.58	866	1.67	893	1.77	920	1.88	946	1.99	971	2.10	996	2.21	1019	2.32	1044	2.43	1066	2.54
3400	854	1.75	881	1.85	906	1.95	931	2.05	957	2.16	982	2.28	1007	2.40	1030	2.51	1054	2.63	1076	2.74
3600	871	1.96	896	2.05	922	2.15	946	2.25	970	2.36	993	2.47	1018	2.59	1042	2.72	1065	2.84	1087	2.96
3800	887	2.18	912	2.28	937	2.38	961	2.48	985	2.58	1008	2.70	1030	2.81	1053	2.93	—	—	—	—
4000	905	2.40	930	2.52	953	2.62	977	2.73	1000	2.83	1022	2.94	—	—	—	—	—	—	—	—
4200	923	2.63	947	2.76	970	2.89	993	3.00	—	—	—	—	—	—	—	—	—	—	—	—
4400	942	2.88	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

	External Static Pressure (Inches of Water Gauge)			
	2.10"		2.20"	
CFM	RPM	BHP	RPM	BHP
	3 HP High Static Drive w/ Field Supplied Sheave & Belt			
3200	1088	2.64	1109	2.75
3400	1098	2.86	1120	2.97
3600	—	—	—	—
3800	—	—	—	—
4000	—	—	—	—
4200	—	—	—	—
4400	—	—	—	—
4600	—	—	—	—
4800	—	—	—	—

Notes:
1. Data includes pressure drop due to wet coil and 1" filter.
2. Fan motor heat (MBh) = 3.15 x BHP.
3. Trane's 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.
4. For TWE120 Standard Drive use Table 41, p. 59, for High Static Drives use Table 42, p. 60.

Table 37. Evaporator Fan Performance —TWE150 — Air Handler

External Static Pressure (Inches of Water Gauge)																				
	.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
2 HP Standard Drive																				
4000	—	—	—	—	—	—	614	0.85	658	0.98	698	1.12	728	1.22	756	1.32	786	1.43	817	1.56
4200	—	—	—	—	581	0.80	627	0.93	669	1.05	710	1.21	744	1.34	772	1.44	799	1.55	827	1.66
4400	—	—	—	—	595	0.88	640	1.02	682	1.15	722	1.29	758	1.45	789	1.58	814	1.68	840	1.79
4600	—	—	563	0.82	609	0.96	653	1.11	695	1.25	732	1.38	771	1.55	804	1.71	831	1.83	856	1.94
4800	—	—	579	0.90	624	1.05	667	1.20	707	1.35	745	1.50	783	1.66	817	1.83	847	1.98	872	2.10
5000	—	—	595	0.99	639	1.15	681	1.31	721	1.47	759	1.62	794	1.77	828	1.94	861	2.12	888	2.27
5200	568	0.95	612	1.09	655	1.25	695	1.42	735	1.58	771	1.74	806	1.90	840	2.06	873	2.25	903	2.43
5400	587	1.05	628	1.20	670	1.36	710	1.53	748	1.71	784	1.88	819	2.04	852	2.20	885	2.38	915	2.58
5600	605	1.16	645	1.31	686	1.48	724	1.66	762	1.83	798	2.01	832	2.19	864	2.35	896	2.52	928	2.73
5800	624	1.28	662	1.43	702	1.60	740	1.79	777	1.97	812	2.15	845	2.34	877	2.51	908	2.68	938	2.87
6000	643	1.40	679	1.56	719	1.74	755	1.92	791	2.12	826	2.30	858	2.49	891	2.68	920	2.86	950	3.03

External Static Pressure (Inches of Water Gauge)																				
	1.10"		1.20"		1.30"		1.40"		1.50"		1.60"		1.70"		1.80"		1.90		2.00	
CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2 HP Hi Static Drive w/ Field Supplied Sheave & Belt											**3 HP High Static Drive Kit**									
4000	849	1.70	882	1.85	915	2.02	947	2.19	976	2.36	1002	2.52	1028	2.69	1053	2.86	1078	3.03	1101	3.20
4200	858	1.80	888	1.95	919	2.11	950	2.28	980	2.45	1010	2.64	1036	2.81	1061	2.98	1085	3.15	1109	3.33
4400	867	1.92	896	2.06	925	2.21	955	2.38	985	2.55	1013	2.73	1044	2.93	1070	3.11	1094	3.30	1117	3.47
4600	880	2.05	906	2.19	934	2.33	961	2.49	989	2.66	1018	2.84	1045	3.02	1074	3.22	1101	3.43	1125	3.61
4800	896	2.22	918	2.33	944	2.47	970	2.63	996	2.79	1023	2.96	1051	3.15	1078	3.34	1105	3.55	1131	3.74
5000	911	2.39	934	2.51	956	2.64	980	2.78	1005	2.93	1031	3.11	1057	3.28	1083	3.48	1109	3.67	1135	3.87
5200	927	2.57	950	2.71	972	2.83	993	2.95	1016	3.11	1040	3.27	1064	3.43	1090	3.62	1115	3.82	1139	4.01
5400	943	2.76	966	2.90	989	3.04	1008	3.17	1029	3.30	1051	3.45	1075	3.62	1098	3.79	1122	3.98	1146	4.17
5600	956	2.92	982	3.11	1004	3.25	1025	3.39	1045	3.52	1065	3.66	1085	3.81	1108	3.98	1130	4.16	1153	4.35
5800	969	3.09	996	3.29	1020	3.47	1041	3.62	1062	3.77	1081	3.91	1099	4.04	1120	4.20	1141	4.37	1162	4.55
6000	980	3.25	1008	3.46	1034	3.67	1057	3.86	1077	4.01	1097	4.16	1115	4.30	1134	4.45	1153	4.60	1174	4.78

5 HP Ultra High Static Drive

External Static Pressure (Inches of Water Gauge)								
	2.10"		2.20"		2.30”		2.40”	
CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
5 HP Ultra High Static Drive								
4000	1126	3.38	1148	3.54	1170	3.73	1191	3.89
4200	1132	3.51	1155	3.69	1179	3.88	1200	4.06
4400	1141	3.66	1163	3.84	1186	4.03	1208	4.23
4600	1150	3.81	1172	4.00	1193	4.18	1215	4.37
4800	1157	3.96	1179	4.15	1202	4.36	—	—
5000	1161	4.09	1186	4.30	1210	4.52	—	—
5200	1164	4.21	1189	4.44	1214	4.66	—	—
5400	1170	4.38	1193	4.58	1218	4.81	—	—
5600	1176	4.55	1198	4.74	1222	4.97	—	—
5800	1184	4.74	1206	4.94	—	—	—	—
6000	1194	4.96	—	—	—	—	—	—

Notes:
1. Data includes pressure drop due to wet coil and 1" filter.
2. Fan motor heat (MBh) = 3.15 x BHP.
3. Trane’s 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.
4. For TWE150 Standard Drive use Table 41, p. 59, for High Static Drive use Table 42, p. 60, for Ultra High Static Drive (3 HP) use Table 43, p. 61.

Table 38. Evaporator Fan Performance —TWE180 — Air Handler

	External Static Pressure (Inches of Water Gauge)																			
	.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
	3 HP Low Static Drive w/ Field Supplied Sheave & Belt										3 HP Standard Drive									
4500	468	0.68	517	0.80	563	0.94	606	1.06	646	1.19	686	1.34	725	1.50	760	1.65	793	1.80	825	1.94
4800	492	0.80	539	0.94	583	1.08	624	1.21	663	1.34	701	1.49	738	1.66	774	1.82	807	1.98	839	2.14
5100	517	0.95	562	1.08	604	1.24	644	1.38	681	1.52	718	1.67	753	1.83	788	2.00	821	2.18	853	2.35
5400	542	1.11	585	1.25	625	1.41	663	1.57	700	1.71	735	1.86	769	2.02	802	2.20	835	2.38	866	2.57
5700	567	1.29	609	1.43	647	1.60	684	1.78	719	1.93	753	2.08	786	2.24	818	2.41	849	2.60	881	2.80
6000	593	1.48	632	1.64	669	1.80	705	1.99	739	2.16	773	2.32	804	2.48	835	2.66	865	2.84	895	3.04
6300	619	1.70	656	1.86	692	2.03	726	2.22	760	2.42	792	2.59	823	2.75	853	2.93	882	3.12	910	3.31
6600	644	1.94	681	2.11	715	2.28	748	2.48	781	2.69	811	2.87	841	3.04	871	3.22	899	3.40	927	3.60
6900	670	2.20	705	2.37	739	2.55	771	2.75	802	2.97	832	3.18	861	3.36	890	3.54	917	3.72	944	3.92
7200	696	2.49	730	2.66	763	2.85	794	3.05	824	3.27	853	3.49	881	3.70	909	3.89	936	4.08	963	4.28
									5 HP High Static Drive Kit											

	External Static Pressure (Inches of Water Gauge)																			
	1.10"		1.20"		1.30"		1.40"		1.50"		1.60"		1.70"		1.80"		1.90		2.00	
CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	5 HP Motor & Sheaves										5 HP Ultra High Static w/ Field Supplied Sheave & Belt									
4500	856	2.09	885	2.24	912	2.38	939	2.53	965	2.67	990	2.81	1015	2.96	1039	3.10	1062	3.24	1085	3.39
4800	869	2.30	897	2.46	926	2.62	953	2.77	979	2.93	1004	3.08	1029	3.24	1051	3.38	1075	3.54	1097	3.69
5100	883	2.52	911	2.69	940	2.86	965	3.02	992	3.19	1017	3.36	1042	3.52	1065	3.68	1088	3.84	1111	4.02
5400	897	2.75	925	2.93	953	3.11	980	3.29	1005	3.47	1031	3.65	1055	3.82	1078	3.99	1102	4.17	1123	4.34
5700	910	2.99	940	3.19	966	3.38	993	3.57	1019	3.75	1044	3.94	1068	4.13	1092	4.32	1114	4.50	1137	4.69
6000	924	3.25	953	3.45	980	3.65	1008	3.86	1033	4.06	1057	4.26	1081	4.45	1105	4.66	1129	4.86	1150	5.05
6300	939	3.52	967	3.73	995	3.95	1022	4.17	1046	4.37	1071	4.59	1095	4.79	1119	5.01	—	—	—	—
6600	954	3.81	981	4.02	1009	4.25	1035	4.48	1061	4.71	1085	4.93	—	—	—	—	—	—	—	—
6900	971	4.13	998	4.35	1022	4.57	1049	4.81	1074	5.04	—	—	—	—	—	—	—	—	—	—
7200	988	4.48	1014	4.70	1039	4.93	1063	5.15	—	—	—	—	—	—	—	—	—	—	—	—

	External Static Pressure (Inches of Water Gauge)							
	2.10"		2.20"		2.30"		2.40"	
CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	5 HP Ultra High Static w/ Field Supplied Sheave & Belt							
4500	1106	3.52	1128	3.66	1149	3.80	1171	3.95
4800	1120	3.84	1141	3.99	1162	4.14	1183	4.30
5100	1132	4.17	1154	4.33	1175	4.49	1196	4.66
5400	1146	4.52	1167	4.69	1188	4.86	1209	5.04
5700	1159	4.87	1180	5.06	—	—	—	—
6000	—	—	—	—	—	—	—	—
6300	—	—	—	—	—	—	—	—
6600	—	—	—	—	—	—	—	—
6900	—	—	—	—	—	—	—	—
7200	—	—	—	—	—	—	—	—

Notes:
1. Data includes pressure drop due to wet coil and 1" filter.
2. Fan motor heat (MBh) = 3.15 x BHP.
3. Trane's 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.
4. For TWE180 Low Static Drive use Table 40, p. 59, for Standard Drive use Table 41, p. 59, for High Static Drive use Table 42, p. 60.

Table 39. Evaporator Fan Performance —TWE240 — Air Handler

	External Static Pressure (Inches of Water Gauge)																			
	.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
	3 HP Low Static Drive Kit													5 HP Standard Drive						
6400	—	—	—	—	652	1.55	693	1.70	732	1.86	769	2.02	802	2.17	833	2.33	867	2.53	901	2.75
6800	—	—	—	—	677	1.79	717	1.96	754	2.12	791	2.29	824	2.46	855	2.62	885	2.79	916	3.00
7200	—	—	661	1.87	703	2.05	742	2.24	778	2.42	812	2.59	846	2.77	878	2.95	906	3.11	934	3.29
7600	647	1.98	688	2.15	729	2.34	766	2.55	802	2.74	835	2.92	868	3.10	900	3.29	929	3.48	956	3.66
8000	677	2.29	716	2.47	755	2.67	791	2.88	826	3.09	858	3.28	889	3.47	921	3.67	951	3.87	979	4.06
8400	707	2.63	744	2.82	781	3.02	817	3.24	851	3.46	883	3.68	913	3.87	942	4.07	972	4.28	1000	4.49
8800	737	3.01	773	3.21	808	3.41	843	3.63	876	3.87	907	4.10	937	4.31	965	4.52	994	4.73	1022	4.95
9200	767	3.41	802	3.63	836	3.84	869	4.06	901	4.30	932	4.55	961	4.79	989	5.00	1016	5.21	1044	5.44
9600	797	3.86	831	4.08	863	4.30	896	4.53	927	4.78	957	5.03	986	5.29	1013	5.52	1040	5.75	1065	5.97
	7.5 HP Ultra Hi Static Drive Kit												5 HP Hi Static Drive w/ Field Supplied Sheaves							

	External Static Pressure (Inches of Water Gauge)																			
	1.10"		1.20"		1.30"		1.40"		1.50"		1.60"		1.70"		1.80"		1.90		2.00	
CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	5 HP Standard Drive												5 HP Hi Static Drive w/ Field Supplied Sheaves							
6400	934	2.95	965	3.16	996	3.37	1028	3.58	1059	3.81	1091	4.03	1120	4.25	1148	4.46	1177	4.69	1204	4.90
6800	948	3.22	979	3.45	1008	3.66	1039	3.89	1069	4.12	1099	4.35	1128	4.58	1156	4.81	1185	5.05	1212	5.28
7200	964	3.51	994	3.75	1024	3.99	1052	4.22	1079	4.45	1108	4.69	1136	4.93	1166	5.19	1193	5.43	1219	5.67
7600	982	3.85	1011	4.07	1039	4.31	1066	4.56	1095	4.82	1121	5.06	1148	5.31	1174	5.56	1202	5.82	1228	6.07
8000	1004	4.25	1029	4.45	1055	4.67	1082	4.92	1109	5.19	1136	5.46	1161	5.71	1186	5.97	1213	6.24	1236	6.48
8400	1027	4.70	1051	4.90	1075	5.10	1100	5.33	1125	5.58	1151	5.85	1177	6.14	1202	6.42	1225	6.68	1250	6.96
8800	1049	5.17	1074	5.39	1097	5.59	1120	5.81	1144	6.03	1168	6.30	1192	6.57	1216	6.85	1241	7.16	1264	7.44
9200	1071	5.68	1096	5.90	1120	6.13	1143	6.34	1164	6.56	1186	6.79	1209	7.05	1233	7.35	—	—	—	—
9600	1092	6.21	1117	6.45	1142	6.69	1166	6.93	1187	7.15	1208	7.38	—	—	—	—	—	—	—	—
	7.5 HP Ultra High Static Drive Kit								7.5 HP Ultra High Motor w/ Field Supplied Fan Sheave & Belt											

	External Static Pressure (Inches of Water Gauge)							
	2.10"		2.20"		2.30”		2.40”	
CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
	7.5 HP Ultra High Motor w/ Field Supplied Fan Sheave & Belt							
6400	1230	5.11	1257	5.33	1282	5.54	1308	5.77
6800	1239	5.52	1265	5.75	1290	5.98	1315	6.20
7200	1246	5.92	1272	6.17	1298	6.41	1323	6.66
7600	1255	6.35	1282	6.61	1306	6.86	—	—
8000	1262	6.76	1289	7.04	1313	7.31	—	—
8400	1273	7.22	—	—	—	—	—	—
8800	—	—	—	—	—	—	—	—
9200	—	—	—	—	—	—	—	—
9600	—	—	—	—	—	—	—	—

Notes:
1. Data includes pressure drop due to wet coil and 1" filter.
2. Fan motor heat (MBh) = 3.15 x BHP.
3. Trane's 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.
4. For TWE240 Low Static Drive use Table 40, p. 59, for Standard Drive use Table 41, p. 59, for High Static Drives (5 HP and 7½ HP) use Table 42, p. 60.

Table 40. Low Static Fan Drives

15 Ton — TWE180 — Low Static Drive with Field Supplied Sheave and Belt[a]	
Motor Sheave Turns Open	Nominal RPM
0	649
1	613
2	557
3	500
4	444
5	469

20 Ton — TWE240 Low Static Drive Kit	
Motor Sheave Turns Open	Nominal RPM
0	855
1	812
2	769
3	726
4	683
5	640

(a)TWE180 3HP Lo-Static w/ field installed belt and sheaves
Field Supplied Components Required:
Motor Sheave: Variable Pitch (2.4 - 3.4 Inch Pitch Diameter), 0.875 Inch Bore, Single Groove, Browning 1VL40
Blower Sheave: Fixed Pitch (9.5 Inch Pitch Diameter), 1.4375 Inch Bore, Single Groove, Browning AX59

Table 41. Standard Fan Drives

5 Ton — TWE061 — Standard Drive	
Motor Sheave Turns Open	Nominal RPM
0	1071
1	1000
2	928
3	857
4	785
5	714

7.5 Ton — TWE090 — Standard Drive	
Motor Sheave Turns Open	Nominal RPM
0	847
1	791
2	734
3	678
4	621
5	565

10 Ton — TWE120 — Standard Drive	
Motor Sheave Turns Open	Nominal RPM
0	818
1	773
2	727
3	682
4	636
5	591

12.5 Ton — TWE150 — Standard Drive	
Motor Sheave Turns Open	Nominal RPM
0	768
1	725
2	683
3	640
4	598
5	555

15 Ton — TWE180 — Standard Drive	
Motor Sheave Turns Open	Nominal RPM
0	845
1	812
2	728
3	745
4	711
5	678
6	644

20 Ton — TWE240 — Standard Drive (5 HP)	
Motor Sheave Turns Open	Nominal RPM
0	966
1	932
2	899
3	865
4	831
5	798
6	764

Table 42. High Static Fan Drives

5 Ton — TWE061 — High Static Drive	
Motor Sheave Turns Open	Nominal RPM
0	1346
1	1279
2	1212
3	1144
4	1077
5	1010

7½ Ton — TWE090 — High Static Drive	
Motor Sheave Turns Open	Nominal RPM
0	1094
1	1039
2	984
3	930
4	875
5	820

10 Ton — TWE120 High Static Drive	
Motor Sheave Turns Open	Nominal RPM
0	972
1	923
2	875
3	826
4	778
5	729

10 Ton — TWE120 — High Static Drive with Field Supplied Sheave and Belt[a]	
Motor Sheave Turns Open	Nominal RPM
0	1129
1	1073
2	1016
3	960
4	903
5	847

12½ Ton — TWE150 High Static Drive (3 HP)	
Motor Sheave Turns Open	Nominal RPM
0	1094
1	1039
2	991
3	942
4	893
5	820

12½ Ton — TWE150 — High Static Drive with Field Supplied Sheave and Belt[b]	
Motor Sheave Turns Open	Nominal RPM
0	913
1	862
2	806
3	749
4	693
5	659

15 Ton — TWE180 High Static Drive	
Motor Sheave Turns Open	Nominal RPM
0	1024
1	989
2	953
3	918
4	882
5	847
6	811

15 Ton — TWE180 — High Static Drive with Field Supplied Sheave[c]	
Motor Sheave Turns Open	Nominal RPM
0	1217
1	1175
2	1118
3	1062
4	1006
5	964
6	964

20 Ton — TWE240 — High Static Drive with Field Supplied Sheave & Belt (5 HP)[d]	
Motor Sheave Turns Open	Nominal RPM
0	1091
1	1053
2	1015
3	978
4	940
5	902
6	864

See next page for notes on required field supplied components

(a) **TWE120 3HP Hi-Static w/ field installed belt and sheaves**
Field Supplied Components Required:
Motor Sheave: Variable Pitch (2.8 - 3.8 Inch Pitch Diameter), 0.875 Inch Bore, Single Groove, Browning 1VP44
Blower Sheave: Fixed Pitch (6.0 Inch Pitch Diameter), 1.0 Inch Bore, Single Groove, Browning AK64
Belt: Browning A50

(b)TWE150 2HP Hi-Static w/ field installed belt and sheaves
Field Supplied Components Required:
Motor Sheave: Variable Pitch (2.4 - 3.4 Inch Pitch Diameter), 0.875 Inch Bore, Single Groove, Browning 1VL40
Blower Sheave: Fixed Pitch (6.7 Inch Pitch Diameter), 1.4375 Inch Bore, Single Groove, Browning AK71
Belt: Browning A55

(c)TWE180 5HP Hi-Static w/ field installed belt and sheaves
Field Supplied Components Required:
Motor Sheave: Variable Pitch (3.4 - 4.4 Inch Pitch Diameter), 1.125 Inch Bore, Single Groove, Browning 1VP50
Blower Sheave: Fixed Pitch (6.6 Inch Pitch Diameter), 1.4375 Inch Bore, Single Groove, Browning BK72
Belt: Browning BX58

(d) **TWE240 5HP Hi-Static w/ field installed belt and sheaves**
Field Supplied Components Required:
Motor Sheave: Variable Pitch (3.4 - 4.4 Inch Pitch Diameter), 1.125 Inch Bore, Single Groove, Browning 1VP50
Blower Sheave: Fixed Pitch(7.4 Inch Pitch Diameter), 1.4375 Inch Bore, Single Groove, Browning BK115
Belt: Browning BX57

Table 43. Ultra High Static Fan Drives

7½ Ton — TWE090 Ultra High Static Drive Kit	
Motor Sheave Turns Open	Nominal RPM
0	1346
1	1241
2	1136
3	1030
4	925
5	820

12½ Ton — TWE150 Ultra High Static Drive (5 HP)	
Motor Sheave Turns Open	Nominal RPM
0	1217
1	1175
2	1133
3	1091
4	1048
5	1006
6	964

20 Ton — TWE240 — Ultra High Static Drive (7.5 HP Motor)	
Motor Sheave Turns Open	Nominal RPM
0	1294
1	1243
2	1191
3	1140
4	1089
5	1037
6	986

20 Ton — TWE240 — Ultra High Static Drive with Field Supplied Sheave (7.5 HP Motor)[a]	
Motor Sheave Turns Open	Nominal RPM
0	1315
1	1281
2	1243
3	1205
4	1168
5	1100
6	1111

(a)TWE240 7.5HP Ultra Hi-Static w/ field installed belt and sheaves
Field Supplied Components Required:
Motor Sheave: Variable Pitch (2.8 - 3.8 Inch Pitch Diameter), 1.125 Inch Bore, Single Groove, Browning 1VP44
Blower Sheave: Fixed Pitch (10.4 Inch Pitch Diameter), 1.4375 Inch Bore, Single Groove, Browning BK110
Belt: Browning BX62

Table 44. Discharge Plenum and Grille Assembly Throw Distance (ft) — Air Handler

Tons	Model No.	CFM	Louver Angle Deflection Position			
			Straight	20°	40°	55°
5	TWE061D TWE061E	1600	42	31	26	20
		1800	46	37	29	22
		2000	48	43	33	24
		2200	51	50	36	25
		2400	54	57	39	29
7½	TWE090D TWE090E	2400	52	43	35	29
		2700	55	48	38	31
		3000	58	53	42	32
		3300	62	57	46	35
		3600	66	60	50	37
10	TWE120D TWE120E	3200	56	46	38	30
		3600	62	51	42	33
		4000	66	57	47	35
		4400	71	62	52	38
		4800	76	67	56	42
12½	TWE150E	4900	47	38	32	25
		5400	52	44	37	29
		6000	57	49	41	32
		6600	61	53	43	34
		7200	65	57	46	35
15	TWE180E	4900	47	38	32	25
		5400	52	44	37	29
		6000	57	49	41	32
		6600	61	53	43	34
		7200	65	57	46	35
20	TWE240E	6400	56	46	38	30
		7200	62	51	42	33
		8000	66	57	47	35
		8800	71	62	52	38
		9600	76	67	56	42

Notes:
1. Throw distance values are based on a terminal velocity of 75 FPM.
2. Throw distance values at other terminal velocities may be established by multiplying throw distances in the table above by throw factor.

Terminal Velocity	Throw Factor
50 FPM	x 1.50
100 FPM	x .75
150 FPM	x .50

Table 45. Electric Heat Discharge Plenum and Grille Airflow (CFM)

Tons	Unit Model No.	Electric Heater Model No.	Airflow (CFM) Minimum	Airflow (CFM) Maximum
5	TWE061D1, E1 TWE061D3, E3 TWE061D4, E4	BAYHTRL117A	2000	2400
		BAYHTRL315A	2000	2400
		BAYHTRL415A	2000	2400
7 1/2	TWE090D1, E1 TWE090D3, E3[a] TWE090D3, E3[a]	BAYHTRL117A	3000	3600
		BAYHTRL123A	3375	3600
		BAYHTRL315A	2625	3600
		BAYHTRL325A	3000	3600
		BAYHTRL415A	2625	3600
		BAYHTRL425A	2625	3600
10	TWE120D1, E1 TWE120D3, E3[a] TWE120D3, E3[a]	BAYHTRL117A	3500	4800
		BAYHTRL123A	4000	4800
		BAYHTRL315A	4000	4800
		BAYHTRL325A	3500	4800
		BAYHTRL415A	3500	4800
		BAYHTRL425A	3500	4800
12½	TWE150E3 TWE150E3[a]	BAYHTRM330A	5250	6000
		BAYHTRM430A	5250	6000
15	TWE180E3 TWE180E3[a]	BAYHTRM330A	5250	7200
		BAYHTRM430A	5250	7200
20	TWE240E3 TWE240E4	BAYHTRM330A	7000	9600
		BAYHTRM430A	7000	9600

(a) When wired for 460 volt, used with BAYHTRL4*** only.

Table 46. Static Pressure Drop Through Accessories (inches of water column)[a] — Air Handlers

Tons	Unit Model No.	CFM	Return Grille	Discharge Plenum and Grille[b]	Electric Heaters (kW) 5-10	15-20	25-30	35-50	Hydronic Coils Steam	Hot Water
5	TWE061D TWE061E	1600	0.12	0.21	0.08	0.08	0.14	—	.44	.31
		2000	0.18	0.33	0.13	0.13	0.19	—	.62	.44
		2400	0.28	0.47	0.19	0.19	0.37	—	.80	.59
7½	TWE090D TWE090E	2400	0.08	0.27	0.03	0.06	0.08	0.12	.38	.23
		3000	0.13	0.4	0.06	0.12	0.17	0.23	.50	.33
		3600	0.18	0.58	0.08	0.16	0.24	0.32	.66	.44
10	TWE120D TWE120E	3200	0.07	0.43	0.06	0.13	0.19	0.26	.42	.40
		4000	0.11	0.66	0.10	0.20	0.30	0.40	.59	.56
		4800	0.15	0.95	0.14	0.28	0.42	0.57	.76	.75
12½	TWE150E	4000	0.06	0.16	0.02	0.02	0.04	0.08	0.28	0.24
		5000	0.10	0.25	0.03	0.03	0.08	0.12	0.44	0.38
		6000	0.14	0.36	0.04	0.05	0.12	0.17	0.64	0.54
15	TWE180E	4800	0.09	0.23	0.03	0.03	0.06	0.08	.46	.38
		6000	0.15	0.34	0.06	0.06	0.12	0.17	.64	.54
		7200	0.2	0.49	0.08	0.08	0.16	0.24	.82	.72
20	TWE240E	6400	0.11	0.43	0.06	0.06	0.13	0.19	.50	.41
		8000	0.17	0.66	0.10	0.10	0.20	0.30	.70	.58
		9600	0.23	0.95	0.14	0.14	0.28	0.42	.89	.78

(a) Return air filter ESP included in Fan Performance Table data.
(b) At louver opening angle of 42 degrees. For ESP at other angle openings, see accessory installation guide.

Table 47. Auxiliary Electric Heat Capacity - Air Handler

Unit Model No.	Total kW	No. of Stages	Stage 1		Stage 2		Total	
			kW Input	BTUH Output	kW Input	BTUH Output	kW Input	BTUH Output
TWE061D3, D4, DW TWE061E3, E4	5.00	1	5.00	17,065	-	-	5.00	17,065
	9.96	1	9.96	33,993	-	-	9.96	33,993
	14.96	1	14.96	51,058	-	-	14.96	51,058
	24.92	2	14.96	51,058	9.96	33,993	24.92	85,051
TWE090[(a)],120D3[(a)],DW TWE090E3[(a)] TWE120E3[(a)], EW	5.00	1	5.00	17,065	-	-	5.00	17,065
	9.96	1	9.96	33,993	-	-	9.96	33,993
	14.96	1	14.96	51,058	-	-	14.96	51,058
	24.92	2	14.96	51,058	9.96	33,993	24.92	85,051
TWE061,090,120D1	5.76	1	5.76	19,659	-	-	5.76	19,659
TWE060E1	11.52	1	11.52	39,318	-	-	11.52	39,318
TWE090E1	17.28	1	17.28	58,977	-	-	17.28	58,977
TWE120E1	23.04	2	11.52	39,318	11.52	39,318	23.04	78,636
TWE090,120D1, E1	28.8	2	17.28	58,977	11.52	39,318	28.8	98,295
TWE090[(a)],120D3[(a)], DW	34.88	2	19.92	67,987	14.96	51,058	34.88	119,045
TWE120E3[(a)], EW	10.00	1	10.00	34,130	-	-	10.00	34,130
TWE150E, 180E, 240E	10.00	1	10.00	34,130	-	-	10.00	34,130
	19.92	1	19.92	67,987	-	-	19.92	67,987
	29.92	2	19.92	67,987	10.00	34,130	29.92	102,117
	49.84	2	29.92	102,117	19.92	67,987	49.84	170,104

Note: Heaters are rated at 240V, 480V and 600V. For other than rated voltage capacity = (Voltage/Related Voltage)^2 x Rated Capacity.

(a) Field converted to 460V

Table 48. Steam Heating Coil Capacity - Air Handlers Steam Pressure (PSIG)

Unit Model No.	Airflow (CFM)	EAT (°F)	Steam Pressure (PSIG)														
			2 PSI			5 PSI			10 PSI			15 PSI			25 PSI		
			LAT (a)	MBh (b)	Cond. lb/ hr(c)	LAT (a)	MBh (b)	Cond. lb/ hr(c)	LAT (a)	MBh (b)	Cond. lb/ hr(c)	LAT (a)	MBh (b)	Cond. lb/ hr(c)	LAT (a)	MBh (b)	Cond. lb/ hr(c)
TWE061D TWE061E	1600	40	97	99	103	100	104	108	104	111	117	108	117	124	113	127	136
		60	111	88	91	114	93	97	118	100	105	121	106	112	127	116	124
		80	125	77	80	127	82	85	131	89	94	135	95	101	140	105	112
	2000	40	90	108	112	93	114	118	96	122	128	99	129	136	104	139	149
		60	104	96	100	107	102	106	111	110	115	114	116	123	119	127	136
		80	119	84	87	121	90	93	125	98	102	128	104	110	133	115	123
	2400	40	85	116	120	87	123	127	90	131	137	93	138	146	98	150	160
		60	100	104	107	102	110	114	105	118	124	108	125	132	113	137	146
		80	115	91	94	117	97	100	120	105	110	123	112	118	127	123	132
TWE090D TWE090E	2400	40	102	162	168	106	171	177	110	182	191	114	192	203	120	208	222
		60	115	144	149	119	152	158	123	164	172	127	174	184	133	190	203
		80	129	126	130	132	134	140	136	146	153	140	155	164	146	171	183
	3000	40	95	178	183	97	187	194	101	200	209	105	210	222	110	228	244
		60	109	158	163	111	167	174	115	180	188	119	190	201	124	208	222
		80	122	138	143	125	147	153	129	160	168	132	170	180	138	188	201
	3600	40	89	191	197	91	201	208	95	215	225	97	226	239	103	245	262
		60	103	170	175	106	180	187	110	193	203	112	205	216	117	224	239
		80	118	149	154	121	158	164	124	172	180	127	183	194	132	202	216
TWE120D TWE120E	3200	40	99	203	210	102	214	222	106	229	240	109	241	254	115	261	279
		60	112	181	187	115	191	199	119	206	216	123	218	230	129	238	255
		80	126	158	164	129	169	175	133	183	192	136	195	206	142	215	230
	4000	40	91	222	229	94	234	243	98	250	262	101	264	278	106	286	306
		60	106	198	204	108	209	217	112	225	236	115	239	252	120	261	279
		80	120	173	179	123	184	192	126	200	210	129	214	226	134	236	252
	4800	40	86	239	246	88	251	261	92	269	282	94	284	299	99	307	329
		60	101	212	219	103	225	233	107	242	254	109	257	271	114	280	300
		80	116	186	192	118	198	206	121	215	226	124	230	243	129	253	271
TWE150E	4000	40	103	274	283	106	288	299	111	308	323	115	325	343	121	352	376
		60	116	244	252	119	258	268	124	277	291	128	294	310	134	321	343
		80	129	213	220	132	227	236	137	247	259	141	263	278	147	290	310
	5000	40	95	300	309	98	316	328	102	337	354	106	356	346	111	286	412
		60	109	267	275	112	282	293	116	304	318	119	322	340	125	352	376
		80	123	234	241	126	249	259	130	270	283	133	288	305	139	318	340
	6000	40	90	322	332	92	339	352	96	363	380	99	383	404	104	415	444
		60	104	287	296	107	303	315	110	327	342	113	347	366	118	379	405
		80	119	251	259	121	268	278	125	291	305	128	310	328	133	342	366

Continued on next page

Table 48. (continued) Steam Heating Coil Capacity - Air Handlers Steam Pressure (PSIG)

Unit Model No.	Airflow (CFM)	EAT (°F)	Steam Pressure (PSIG)														
			2 PSI			5 PSI			10 PSI			15 PSI			25 PSI		
			LAT (a)	MBh (b)	Cond. lb/ hr(c)	LAT (a)	MBh (b)	Cond. lb/ hr(c)	LAT (a)	MBh (b)	Cond. lb/ hr(c)	LAT (a)	MBh (b)	Cond. lb/ hr(c)	LAT (a)	MBh (b)	Cond. lb/ hr(c)
TWE180E	4800	40	97	295	304	100	310	322	104	332	348	107	350	369	113	379	406
		60	110	262	271	113	278	288	117	299	313	121	317	334	126	346	370
		80	124	230	237	127	245	254	131	266	279	134	284	299	140	313	334
	6000	40	90	322	332	92	339	352	96	363	380	99	383	404	104	415	444
		60	104	287	296	107	303	315	110	327	343	113	347	366	118	379	405
		80	119	251	259	121	268	278	125	291	305	128	310	328	133	342	366
	7200	40	84	346	356	87	364	378	90	390	408	93	411	434	97	446	477
		60	99	308	318	102	326	338	105	351	368	108	373	393	112	407	435
		80	115	270	278	117	287	299	120	313	327	123	334	352	127	368	394
TWE240E	6400	40	95	379	391	97	399	414	102	427	447	105	450	475	110	488	522
		60	109	337	348	111	357	371	115	384	403	119	408	430	124	445	476
		80	123	295	305	125	315	327	129	342	358	133	365	385	138	402	430
	8000	40	88	414	426	90	436	452	94	467	488	97	492	519	102	534	571
		60	102	368	380	105	390	405	108	420	440	111	446	470	116	487	521
		80	117	322	333	120	344	357	123	374	392	126	399	421	131	440	471
	9600	40	83	443	457	85	468	485	88	501	524	91	529	558	95	574	613
		60	98	395	407	100	418	434	103	451	473	106	479	505	110	524	560
		80	113	346	357	115	369	383	119	402	421	121	429	453	125	473	506

Notes: Type NS Coil, 1 Row, 1" OD, SF Fins, 132 Fins per Foot.

(a) LAT - Leaving Air Temperature (°F)
(b) MBh Capacity: BTU/HR/1000
(c) Cond. Lb/Hr - Condensate pound per hour

Table 49. Hot Water Heating Coil Capacity - Air Handler

Tons	Unit Model No.	Airflow (CFM)	Entering Air Temp. (°F)	Entering Water Temperature (°F) 180								
				Water Temperature Drop (°F)								
				20.0			30.0			40.0		
				GPM[a]	MBh[b]	LAT[c]	GPM[a]	MBh[b]	LAT[c]	GPM[a]	MBh[b]	LAT[c]
5	TWE061D TWE061E	1600	40	10.9	106.1	101.0	6.6	96.5	96.0	4.5	87.4	90.0
			60	9.0	88.3	111.0	5.4	79.1	106.0	3.6	70.3	100.0
			80	7.2	70.6	121.0	4.2	61.8	116.0	2.7	53.4	111.0
		2000	40	12.3	119.8	95.0	7.4	108.6	90.0	5.0	97.9	851.0
			60	10.2	99.6	106.0	6.1	88.8	101.0	4.0	78.6	96.0
			80	8.1	79.5	117.0	4.7	69.2	112.0	3.0	59.6	107.0
		2400	40	13.5	132.0	91.0	8.1	119.2	86.0	5.5	107.1	811.0
			60	11.2	109.6	102.0	6.6	97.4	97.0	4.4	85.9	931.0
			80	9.0	87.4	114.0	5.2	75.7	109.0	3.3	64.9	105.0
7½	TWE090D TWE090E	2400	40	17.0	165.9	104.0	10.4	152.3	98.0	7.1	139.2	93.0
			60	14.2	138.4	113.0	8.5	125.2	108.0	5.7	112.5	103.0
			80	11.4	111.1	123.0	6.7	98.3	118.0	4.4	86.1	113.0
		3000	40	19.3	187.9	98	11.7	171.9	93	8.0	156.5	88
			60	16.1	156.7	108.0	9.6	141.1	103.0	6.4	126.3	991.0
			80	12.9	125.5	119.0	7.5	110.6	114.0	4.9	96.5	110.0
		3600	40	21.2	207.3	93.0	12.9	189.1	88.0	8.8	171.6	84.0
			60	17.7	172.7	104.0	10.6	155.0	100.0	7.1	138.3	95.0
			80	14.2	138.2	115.0	8.3	121.2	111.0	5.4	105.4	107.0
10	TWE120D TWE120E	3200	40	24.5	239.1	109.0	14.3	210.0	100.0	9.1	178.7	91.0
			60	20.2	197.3	117.0	11.5	168.4	108.0	6.9	134.8	99.0
			80	15.9	155.6	125.0	8.6	126.1	116.0	4.0	78.7	103.0
		4000	40	27.8	271.7	103.0	16.2	237.5	95.0	10.3	201.9	86.0
			60	22.9	223.8	112.0	13.0	190.3	104.0	7.8	153.3	95.0
			80	18.1	176.2	121.0	9.7	142.6	113.0	5.0	97.3	102.0
		4800	40	30.7	300.0	98.0	17.8	261.3	90.0	11.3	221.7	82.0
			60	25.3	246.9	107.0	14.3	209.1	100.0	8.6	168.9	92.0
			80	19.9	194.0	117.0	10.7	156.7	110.0	5.6	110.2	101.0
12½	TWE150E	4000	40	31.7	318.0	113.3	19.2	287.7	106.3	12.8	256.5	99.1
			60	26.4	264.4	120.9	15.6	234.4	114.0	10.2	203.2	106.9
			80	21.1	210.9	128.6	12.1	181.1	121.7	7.4	148.9	114.3
		5000	40	36.0	360.6	106.5	21.7	325.2	100.0	14.4	288.8	93.3
			60	29.9	299.6	115.3	17.6	264.5	108.8	11.4	228.3	102.1
			80	23.8	238.7	124.0	13.6	203.8	117.6	8.4	167.5	110.9
		6000	40	39.7	397.0	101.0	23.8	357.0	94.9	15.8	316.1	88.6
			60	32.9	329.6	110.7	19.3	290.0	104.6	12.5	249.5	98.3
			80	26.2	262.3	120.3	14.9	223.1	114.3	9.1	182.8	108.1
15	TWE180E	4800	40	35.2	343.9	106.0	21.2	310.3	100.0	14.1	276.3	93.0
			60	29.3	285.7	115	17.2	252.7	108.0	11.2	218.5	102.0
			80	23.3	227.7	124.0	13.3	195.0	117.0	8.2	159.9	111.0
		6000	40	40.0	390.3	100.0	23.9	350.8	94.0	15.9	311.4	884.0
			60	33.3	323.9	110.0	19.5	285.3	104.0	12.6	246.2	98.0
			80	26.4	257.7	120.0	15.0	219.9	114.0	9.2	180.5	108.0
		7200	40	44.2	431.3	95.0	26.4	386.5	89.0	17.5	342.1	84.0
			60	36.6	357.6	106.0	21.4	313.9	100.0	13.8	270.6	95.0
			80	29.1	284.2	116.0	16.5	241.6	111.0	10.1	198.3	105.0
20	TWE240E	6400	40	46.8	456.2	106.0	28.4	416.5	100.0	19.3	376.7	94.0
			60	39.0	380.2	115.0	23.3	341.2	109.0	15.4	301.7	103.0
			80	31.2	304.5	124.0	18.2	266.0	118.0	11.6	227.0	113.0
		8000	40	53.0	517.5	100.0	32.1	470.9	94.0	21.7	424.5	89.0
			60	44.2	430.9	110.0	26.3	385.2	104.0	17.4	339.6	99.0
			80	35.3	344.6	120.0	20.5	299.8	115.0	13.0	255.2	109.0
		9600	40	58.6	572.0	94.0	35.4	519.1	90.0	23.9	466.8	85.0
			60	48.8	475.9	106.0	28.9	424.2	101.0	19.1	373.3	96.0
			80	39.0	380.2	116.0	22.5	329.6	112.0	14.3	280.0	107.0

Continued on next page

Table 49. Hot Water Heating Coil Capacity - Air Handler (continued)

Tons	Unit Model No.	Airflow (CFM)	Entering Air Temp. (°F)	Entering Water Temperature (°F) 200.0 Water Temperature Drop (°F) 20.0 GPM[a]	20.0 MBh[b]	20.0 LAT[c]	30.0 GPM[a]	30.0 MBh[b]	30.0 LAT[c]	40.0 GPM[a]	40.0 MBh[b]	40.0 LAT[c]
			40	12.9	124.9	112.0	7.9	115.4	106.0	5.5	106.3	101.0
		1600	60	11.0	107.0	122.0	6.7	97.8	116.0	4.6	88.9	111.0
			80	9.2	89.1	131.0	5.5	80.2	126.0	3.7	71.7	121.0
	TWE061D		40	4.5	141.3	105.0	8.9	130.1	100.0	6.1	119.4	95.0
5	TWE061E	2000	60	12.4	120.9	116.0	7.5	110.1	111.0	5.1	99.7	106.0
			80	10.4	100.6	126.0	6.2	90.2	122.0	4.1	80.3	117.0
			40	6.0	155.8	100.0	9.8	143.1	95.0	6.7	131.0	90.0
		2400	60	3.7	133.3	111.0	8.3	120.9	106.0	5.6	109.2	102.0
			80	11.4	110.8	123.0	6.8	98.9	118.0	4.5	87.8	114.0
			40	20.0	194.8	115.0	12.4	181.2	110.0	8.6	168.2	105.0
		2400	60	17.2	167.1	124.0	10.6	153.9	119.0	7.2	141.2	114.0
			80	14.4	139.6	134.0	8.7	126.8	129.0	5.9	114.3	124.0
	TWE090D		40	22.7	220.9	108	14.0	204.9	103.0	9.7	189.6	98.0
7½	TWE090E	3000	60	9.5	189.4	118.0	11.9	173.9	113.0	8.2	159.0	109.0
			80	16.3	158.1	129.0	9.8	143.0	124.0	6.6	128.5	119.0
			40	25.1	244.0	102.0	15.5	225.7	981.0	0.7	208.4	93.0
		3600	60	21.5	209.1	113.0	13.1	191.4	109.0	9.0	174.4	105.0
			80	17.9	174.3	125.0	10.8	157.1	120.0	7.2	140.9	116.0
			40	29.3	284.7	122.0	17.6	256.8	114.0	11.7	228.6	106.0
		3200	60	25.0	242.6	130.0	14.7	215.2	122.0	9.6	186.9	114.0
			80	20.6	200.6	138.0	11.9	173.6	130.0	7.4	144.3	122.0
	TWE120D		40	33.4	324.1	115.0	19.9	291.0	107.0	13.3	258.2	99.0
10	TWE120E	4000	60	28.4	275.8	124.0	16.7	243.6	116.0	10.8	211.0	109.0
			80	23.4	227.7	132.0	13.4	196.2	125.0	8.4	163.2	118.0
			40	36.9	358.3	109.0	22.0	320.7	102.0	14.6	283.7	94.0
		4800	60	31.4	304.7	118.0	18.4	268.1	111.0	11.9	231.6	104.0
			80	25.9	251.3	128.0	14.8	215.6	121.0	9.2	179.4	114.0
			37.3	374.5	126.3	23.0	345.9	119.7	15.8	316.5	113.0	37.3
		4000	32.0	320.9	134.0	19.4	292.5	127.4	13.1	263.1	120.7	32.0
			26.6	267.4	141.6	15.9	293.1	135.1	10.5	209.7	128.3	26.6
			42.4	425.4	118.5	26.0	391.7	112.2	17.8	357.2	105.9	42.4
12½	TWE150E	5000	36.3	364.3	127.2	22.0	330.8	121.0	14.8	296.5	114.7	36.3
			30.2	303.2	135.9	17.9	269.9	129.8	11.8	235.8	123.5	30.2
			46.7	468.8	112.0	28.6	430.6	106.2	19.5	391.7	100.2	46.7
		6000	40.0	401.2	121.7	24.2	363.3	115.8	16.2	324.8	109.9	40.0
			33.2	333.6	131.3	19.7	296.1	125.5	12.9	257.8	119.6	33.2
			40	41.8	406.0	118.0	25.6	373.4	112.0	17.5	341.0	105.0
		4800	60	35.8	347.5	127.0	21.6	315.4	121.0	14.6	283.4	114.0
			80	29.8	289.1	135.0	17.7	257.6	129.0	11.6	225.7	123.0
			40	7.5	461.4	111.0	29.0	423.0	105.0	19.8	385.0	99.0
15	TWE180E	6000	60	40.6	394.6	121.0	24.5	356.9	115.0	16.4	319.6	109.0
			80	33.8	327.9	130.0	19.9	291.0	125.0	13.1	254.3	119.0
			40	52.5	510.4	105.0	32.0	466.7	100.0	21.8	423.8	94.0
		7200	60	44.9	436.3	116.0	27.0	393.5	110.0	18.0	351.4	105.0
			80	37.3	362.2	126.0	22.0	320.5	121.0	14.3	279.5	116.0
			40	55.2	536.5	117.0	34.1	497.8	112.0	23.6	459.4	106.0
		6400	60	47.4	460.2	126.0	28.9	422.1	121.0	19.7	384.2	115.0
			80	39.5	384.0	135.0	23.8	346.5	130.0	15.9	308.9	124.0
			40	62.7	609.2	110.0	38.6	563.8	105.0	26.6	518.8	100.0
20	TWE240E	8000	60	53.8	522.2	120.0	32.7	477.6	115.0	22.2	433.3	110.0
			80	44.8	435.4	130.0	26.8	391.5	125.0	17.9	347.9	120.0
			40	69.4	673.9	105.0	42.7	622.3	100.0	29.3	571.5	95.0
		9600	60	59.4	577.4	115.0	36.1	526.8	111.0	24.5	476.7	106.0
			80	49.5	481.0	126.0	29.6	431.4	121.0	19.6	382.6	117.0

Continued on next page

Table 49. Hot Water Heating Coil Capacity - Air Handler (continued)

Tons	Unit Model No.	Airflow (CFM)	Entering Air Temp. (°F)	Entering Water Temperature (°F) 210.0 Water Temperature Drop (°F) 20.0 GPM[a]	20.0 MBh[b]	20.0 LAT[c]	30.0 GPM[a]	30.0 MBh[b]	30.0 LAT[c]	40.0 GPM[a]	40.0 MBh[b]	40.0 LAT[c]
5	TWE061D TWE061E	1600	40	13.9	134.3	117.0	8.6	124.8	112.0	6.0	115.8	107.0
			60	12.0	116.3	127.0	7.4	107.1	122.0	5.1	98.3	117.0
			80	10.2	98.4	137.0	6.1	89.5	132.0	4.2	80.9	127.0
		2000	40	15.7	152.0	110.0	9.7	140.9	105.0	6.7	130.2	100.0
			60	13.6	131.6	121.0	8.3	120.7	116.0	5.7	110.5	111.0
			80	11.5	111.2	131.0	6.9	100.7	126.0	4.7	90.7	122.0
		2400	40	17.3	167.7	104.0	10.6	155.0	99.0	7.4	142.9	95.0
			60	15.0	145.1	116.0	9.1	132.8	111.0	6.2	121.0	106.0
			80	12.6	122.6	127.0	7.6	110.6	122.0	5.1	99.3	118.0
7½	TWE090D TWE090E	2400	40	21.6	209.2	120.0	13.4	195.7	115.0	9.4	182.7	110.0
			60	18.7	181.5	130.0	11.6	168.3	125.0	8.0	155.6	120.0
			80	15.9	153.9	139.0	9.7	141.0	134.0	6.6	28.6	129.0
		3000	40	24.5	237.4	113.0	15.2	221.5	108.0	10.6	206.2	103.0
			60	21.2	205.8	123.0	13.1	190.3	118.0	9.0	175.4	114.0
			80	18.0	174.4	134.0	10.9	159.2	129.0	7.4	144.7	124.0
		3600	40	27.1	262.3	107.0	16.8	244.1	102.0	11.7	226.8	98.0
			60	23.4	227.3	118.0	14.4	209.6	114.0	9.9	192.6	109.0
			80	19.8	192.4	129.0	12.0	175.2	125.0	8.2	158.7	121.0
10	TWE120D TWE120E	3200	40	31.7	307.4	129.0	19.2	279.9	121.0	13.0	252.6	113.0
			60	27.4	265.1	136.0	16.4	238.2	129.0	10.9	211.0	121.0
			80	23.0	223.0	144.0	13.5	196.5	137.0	8.7	169.1	129.0
		4000	40	36.1	350.2	121.0	21.8	317.6	113.0	14.7	285.5	106.0
			60	31.1	301.7	130.0	18.5	269.9	122.0	12.3	238.2	115.0
			80	26.1	253.4	138.0	15.3	222.3	131.0	9.8	190.8	124.0
		4800	40	40.0	387.4	114.0	24.1	350.3	107.0	16.2	313.9	100.0
			60	34.4	333.6	124.0	20.4	297.3	117.0	13.5	261.7	110.0
			80	28.9	279.9	134.0	16.8	244.6	127.0	10.8	209.5	120.0
12½	TWE150E	4000	40.1	402.7	132.8	24.9	374.7	126.4	17.2	346.1	119.8	40.1
			34.7	349.1	140.5	21.3	321.3	134.1	14.6	292.7	127.5	34.7
			29.4	295.5	148.1	17.8	267.8	141.7	11.9	239.2	135.1	29.4
		5000	45.5	457.6	124.4	28.2	424.6	118.3	19.5	391.0	112.1	45.5
			39.4	396.4	133.1	24.1	363.7	127.1	16.5	330.2	120.9	39.4
			33.4	335.3	141.8	20.1	302.7	135.8	13.4	269.4	129.7	33.4
		6000	50.2	504.5	117.5	31.0	467.1	111.8	21.4	429.1	105.9	50.2
			43.5	436.8	127.1	26.5	399.7	121.4	18.0	362.0	115.6	43.5
			36.7	369.2	136.7	22.1	332.4	131.1	14.7	294.9	125.3	36.7
15	TWE180E	4800	40	45.1	437.0	124.0	27.8	404.7	118.0	19.2	372.9	112.0
			60	39.0	378.3	133.0	23.8	346.6	127.0	16.2	315.2	120.0
			80	33.0	319.8	141.0	19.8	288.6	135.0	13.3	257.5	129.0
		6000	40	51.3	496.8	116.0	31.5	458.9	110.0	21.7	421.5	105.0
			60	44.4	429.9	126.0	27.0	392.6	120.0	18.3	355.8	115.0
			80	37.5	363.0	136.0	22.4	326.5	130.0	14.9	290.3	125.0
		8000	40	56.7	549.8	110.0	34.8	506.7	105.0	23.9	464.3	99.0
			60	49.1	475.5	121.0	29.8	433.1	115.0	20.2	391.5	110.0
			80	41.4	401.3	131.0	24.7	359.8	126.0	16.4	319.0	121.0
20	TWE240E	6400	40	59.5	576.5	123.0	37.0	538.3	118.0	25.8	500.5	112.0
			60	51.6	500.0	132.0	31.8	462.4	127.0	21.9	425.0	121.0
			80	43.7	423.7	141.0	26.6	386.6	136.0	18.0	349.7	130.0
		8000	40	67.6	654.9	115.0	41.9	610.0	110.0	29.1	565.7	105.0
			60	58.6	567.8	125.0	36.0	523.6	120.0	24.7	479.9	115.0
			80	49.6	480.7	135.0	30.0	437.3	130.0	20.3	394.2	125.0
		9600	40	74.8	724.6	110.0	46.3	673.8	105.0	32.1	623.6	100.0
			60	64.8	628.0	120.0	39.7	578.0	115.0	27.2	528.4	111.0
			80	54.8	531.4	131.0	33.1	482.2	126.0	22.3	433.5	122.0

(a) GPM - Gallons Per Minute
(b) MBh Capacity: BTU/HR/1000
(c) LAT - Leaving Air Temperature (°F)

Performance Data

Table 50. Hot Water Heating Coil - Water Side Pressure Drop @ 180°F Entering Water Temperature - Air Handler

Tons	Unit Model No.	Gallons Per Minute (GPM)																		
		2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38
		Pressure Drop (Ft. of Water)																		
5	TWE061D,E	.02	.07	.15	.26	.40	.56	.75	.97	1.22	1.49	1.78	-	-	-	-	-	-	-	-
7½	TWE090D,E	-	-	.06	.11	.16	.23	.30	.39	.48	.58	.70	.82	.95	1.09	1.24	1.40	1.57	-	-
10	TWE120D,E	-	-	-	.06	.09	.13	.17	.22	.27	.33	.39	.46	.54	.62	.70	.79	.89	.99	1.10
12½	TWE150E	-	-	-	-	.11	.15	.20	.26	.32	.39	.47	.55	.64	.73	.83	.94	1.05	1.17	1.29
15	TWE180E	-	-	-	-	.11	.15	.20	.26	.32	.39	.47	.55	.64	.73	.83	.94	1.05	1.17	1.29
20	TWE240E	-	-	-	-	-	.17	.23	.30	.37	.45	.53	.63	.72	.83	.94	1.06	1.19	1.32	1.46

Continued

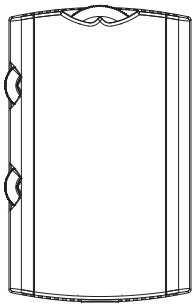
Tons	Unit Model No.	Gallons Per Minute (GPM)																		
		40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76
		Pressure Drop (Ft. of Water)																		
5	TWE061D,E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7½	TWE090D,E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	TWE120DE	1.21	1.32	1.44	1.57	1.70	1.84	-	-	-	-	-	-	-	-	-	-	-	-	-
12½	TWE150E	1.42	1.56	1.70	1.85	2.00	2.16	2.33	2.50	2.67	2.86	3.04	3.24	3.44	3.64	3.85	4.07	-	-	-
15	TWE180E	1.42	1.56	1.70	1.85	2.00	2.16	2.33	2.50	2.67	2.86	3.04	3.24	3.44	3.64	3.85	4.07	-	-	-
20	TWE240E	1.61	1.76	1.92	2.09	2.26	2.44	2.63	2.82	3.02	3.22	3.43	3.65	3.87	4.10	4.34	4.58	4.83	5.08	5.34

Controls

ReliaTel™ Controlled Units

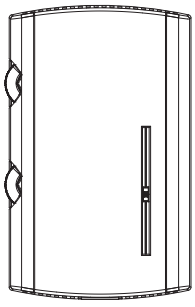
Zone Sensors are the building occupant's comfort control devices. The following zone sensor options are available for Odyssey units with ReliaTel control:

Manual Changeover



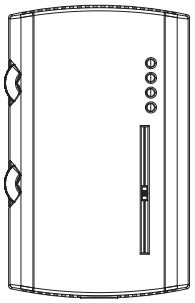
Heat, Cool or Off System Switch. Fan Auto or Off Switch. One temperature setpoint lever.

Manual/Automatic Changeover



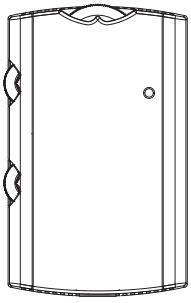
Auto, Heat, Cool or Off System Switch. Fan Auto or Off Switch. Two temperature setpoint levers.

Manual/Automatic Changeover



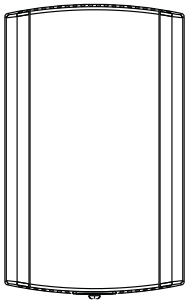
Auto, Heat, Cool or Off System Switch. Fan Auto or Off Switch. Two temperature setpoint levers. Status Indication LED lights, System On, Heat, Cool, or Service.

Manual/Automatic Changeover



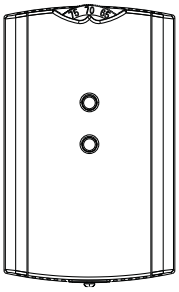
Auto, Heat, Cool or Off System Switch. Fan Auto or Off Switch. Two temperature setpoint levers.

Remote Sensor



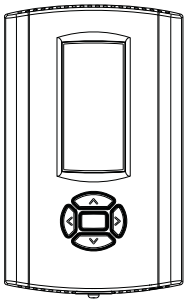
Sensor(s) available for all zone sensors to provide remote sensing capabilities.

Integrated Comfort™ System



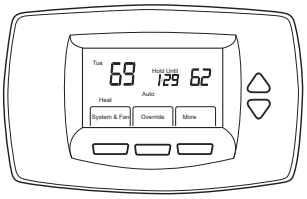
Sensor(s) available with optional temperature adjustment and override buttons to provide central control through a Trane Integrated Comfort™ system.

Programmable Night Setback



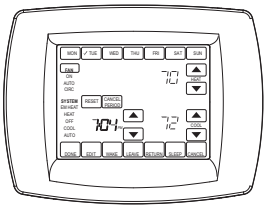
Auto or manual changeover with seven-day programming. Keyboard selection of Heat, Cool, Fan, Auto, or On. All programmable sensors have System On, Heat, Cool, Service LED/indicators as standard. Night Setback Sensors have one (1) Occupied, one (1) Unoccupied, and one (1) Override program per day.

Digital Display Programmable Thermostat (2H/2C)



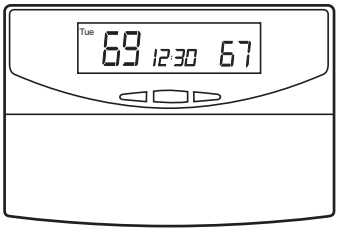
Two Heat/Two Cool digital display thermostat. 7-day programmable stat with night setback shall be available.

Touchscreen Programmable Thermostat (2H/2C)



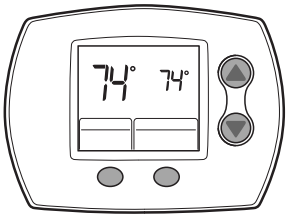
Two Heat/Two Cool programmable thermostat with touch screen digital display. Menu-driven programming. Effortless set-up. Program each day separately with no need to copy multiple days. All programming can be done on one screen. Easy to read and use. Large, clear backlit digital display.

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



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

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.

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.

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 51. Electrical Characteristics — Compressor and Condenser Fan Motors —60 Hz

		Compressor Motor					Condenser Fan Motor				
					Amps					Amps	
					RLA	LRA				FLA	LRA
Tons	Unit Model No.	No.	Volts	Phase	(Ea.)	(Ea.)	No.	Volts	Phase	(Ea.)	(Ea.)
6	TTA073D3	1	208-230	3	22.4	149	1	208-230	1	3.1	8.1
	TTA073D4	1	460	3	10.6	75	1	460	1	1.6	3.8
	TTA073DK	1	380	3	11.3	88	1	380	1	2.7	7
	TTA073DW	1	575	3	7.9	54	1	575	1	1.2	3
7½	TTA090D3	1	208-230	3	25	164	1	208-230	1	3.1	8.1
	TTA090D4	1	460	3	12.9	100	1	460	1	1.6	3.8
	TTA090DK	1	380	3	14.3	94.3	1	380	1	2.7	7
	TTA090DW	1	575	3	10.6	78	1	575	1	1.2	3
10	TTA120D3	1	208-230	3	30.1	225	1	208-230	1	5	14.4
	TTA120D4	1	460	3	16.7	114	1	460	1	2.5	5.8
	TTA120DK	1	380	3	19.8	140	1	380	1	3.4	7.8
	TTA120DW	1	575	3	12.4	80	1	575	1	2	5.1
	TTA120E3	2	208-230	3	16	110	1	208-230	1	5	14.4
	TTA120E4	2	460	3	7.8	52	1	460	1	2.5	5.8
	TTA120EK	2	380	3	10.4	65.6	1	380	1	3.4	7.8
	TTA120EW	2	575	3	6	38.9	1	575	1	2	5.1
	TTA120F3	2	208-230	3	17.6	123	1	208-230	1	5	14.4
	TTA120F4	2	460	3	9.6	62	1	460	1	2.5	5.8
	TTA120FW	2	575	3	6.1	40	1	575	1	2	5.1
12½	TTA150E3	2	208-230	3	22.4	149	1	208-230	1	5	14.4
	TTA150E4	2	460	3	10.6	75	1	460	1	2.5	5.8
	TTA150EK	2	380	3	11.3	88	1	380	1	3.4	7.8
	TTA150EW	2	575	3	8.6	54	1	575	1	2	5.1
15	TTA180E3	2	208-230	3	25	164	2	208-230	1	5	14.4
	TTA180E4	2	460	3	12.2	100	2	460	1	2.5	5.8
	TTA180EK	2	380	3	14.3	94.3	2	380	1	3.4	7.8
	TTA180EW	2	575	3	9.6	78	2	575	1	2	5.1
	TTA180F3	2	208-230	3	25	164	2	208-230	1	5	14.4
	TTA180F4	2	460	3	12.2	100	2	460	1	2.5	5.8
	TTA180FK	2	380	3	14.3	94.3	2	380	1	3.4	7.8
	TTA180FW	2	575	3	9.9	78	2	575	1	2	5.1
20	TTA240E3	2	208-230	3	39.1	267	2	208-230	1	5	14.4
	TTA240E4	2	460	3	18.6	142	2	460	1	2.5	5.8
	TTA240EK	2	380	3	23.1	160	2	380	1	3.4	7.8
	TTA240EW	2	575	3	15.4	103	2	575	1	2	5.1
	TTA240F3	2	208-230	3	39.1	267	2	208-230	1	5	14.4
	TTA240F4	2	460	3	19.8	142	2	460	1	2.5	5.8
	TTA240FK	2	380	3	23.1	160	2	380	1	3.4	7.8
	TTA240FW	2	575	3	15.8	103	2	575	1	2	5.1

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

Table 52. Unit Wiring — Condensing Units — 60 Hz

Tons	Unit Model Number	Unit Operating Voltage Range	Minimum Circuit Ampacity	Maximum Fuse or HACR Circuit Breaker Size[a]
6	TTA073D3	187-253	31.1	40
	TTA073D4	414-506	14.9	20
	TTA073DK	342-418	16.8	20
	TTA073DW	518-632	11.1	15
7½	TTA090D3	187-253	34.4	45
	TTA090D4	414-506	17.7	25
	TTA090DK	342-418	20.6	25
	TTA090DW	518-632	14.5	20
10	TTA120D3	187-253	42.6	60
	TTA120D4	414-506	23.4	30
	TTA120DK	342-418	28.2	35
	TTA120DW	518-632	17.5	25
	TTA120E3	187-253	41.0	45
	TTA120E4	414-506	20.1	25
	TTA120EK	342-418	26.9	30
	TTA120EW	518-632	15.5	20
	TTA120F3	187-253	44.6	50
	TTA120F4	414-506	24.1	30
	TTA120FW	518-632	15.7	20
12½	TTA150E3	187-253	55.4	70
	TTA150E4	414-506	26.4	30
	TTA150EK	342-418	28.8	35
	TTA150EW	518-632	21.4	25
15	TTA180E3	187-253	66.3	80
	TTA180E4	414-506	32.5	40
	TTA180EK	342-418	39.0	45
	TTA180EW	518-632	25.6	30
	TTA180F3	187-253	66.3	80
	TTA180F4	414-506	32.5	40
	TTA180FK	342-418	39.0	45
	TTA180FW	518-632	26.3	30
20	TTA240E3	187-253	98.0	110
	TTA240E4	414-506	46.9	60
	TTA240EK	342-418	58.8	70
	TTA240EW	518-632	38.7	45
	TTA240F3	187-253	98.0	110
	TTA240F4	414-506	49.6	60
	TTA240FK	342-418	58.8	70
	TTA240FW	518-632	39.6	45

Note: Electrical characteristics reflect nameplate values and are calculated in accordance with cULus and ARI specifications. 7½ and 10 ton values are system rated; 12½, 15 and 20 ton values are condensing unit only rated.

(a) HACR type circuit breaker per NEC.

Table 53. Electrical Characteristics — Standard and Low Static Motors — 60 Hz Air Handler[a]

		Standard Evaporator Fan Motor								Low Static Evaporator Fan Motor							
						Amps								Amps			
Tons	Unit Model Number	No.	Volts	Phase	Hp	FLA	LRA	MCA	MFS	No.	Volts	Phase	Hp	FLA	LRA	MCA	MFS
5	TWE061D1, E1	1	208	1	0.75	6.0	41.0	7.5	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE061D1, E1	1	230	1	0.75	5.9	45.0	7.4	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE061D3, E3	1	208	3	0.75	2.5	16.4	3.1	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE061D3, E3	1	230	3	0.75	2.4	16.4	3.0	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE061D4, E4	1	460	3	0.75	1.2	8.2	1.5	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE061DW	1	575	3	0.75	1.3	6.1	1.6	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7½	TWE090D1, E1	1	208	1	1.50	6.8	31.5	8.5	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE090D1, E1	1	230	1	1.50	6.2	31.5	7.8	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE090D3, E3	1	208	3	1.50	5.3	34.3	6.6	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE090D3, E3	1	230	3	1.50	5.0	34.3	6.3	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE090D3, E3[b]	1	460	3	1.50	2.5	17.0	3.1	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE090DW	1	575	3	1.50	1.8	13.6	2.3	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10	TWE120D1, E1	1	208	1	2.00	8.5	57.4	10.6	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE120D1, E1	1	230	1	2.00	7.7	57.4	9.6	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE120D3, E3	1	208	3	2.00	6.2	33.9	7.8	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE120D3, E3	1	230	3	2.00	5.8	33.9	7.3	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE120D3, E3[b]	1	460	3	2.00	2.9	33.9	3.6	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE120DW, EW	1	575	3	2.00	2.3	14.4	2.9	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12½	TWE150E3	1	208	3	2.00	5.95	23.0	7.4	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE150E3	1	230	3	2.00	5.5	23.0	6.9	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE150E3[b]	1	460	3	2.00	2.75	23.0	3.4	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE150EW	1	575	3	2.00	2.2	18.0	2.8	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
15	TWE180E3	1	208	3	3.00	9.4	74.9	11.8	20	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE180E3	1	230	3	3.00	9.2	74.9	11.5	20	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE180E3[b]	1	460	3	3.00	4.6	39.3	5.8	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE180EW	1	575	3	3.00	3.4	24.6	4.3	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20	TWE240E3	1	208	3	5.00	14.5	98.0	18.1	25	1	208	3	3.00	9.4	74.9	11.8	20
	TWE240E3	1	230	3	5.00	14.3	98.0	17.9	25	1	230	3	3.00	9.2	74.9	11.5	20
	TWE240E4	1	460	3	5.00	6.7	47.0	8.4	15	1	460	3	3.00	4.6	39.3	5.8	15
	TWE240EW	1	575	3	5.00	5.2	-	6.5	15	1	575	3	3.00	3.4	24.6	4.3	15

Continued on next page

(a) For additional information contact product support.
(b) Field wired for 460V.

Table 54. Electrical Characteristics — High and Ultra-High Static Motors — 60 Hz Air Handler[a]

		High Static Evaporator Fan Motor								Ultra-High Static Evaporator Fan Motor							
						Amps								Amps			
Tons	Unit Model Number	No.	Volts	Phase	Hp	FLA	LRA	MCA	MFS	No.	Volts	Phase	Hp	FLA	LRA	MCA	MFS
5	TWE061D1, E1	1	208	1	1.50	6.8	31.5	8.5	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE061D1, E1	1	230	1	1.50	6.2	31.5	7.8	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE061D3, E3	1	208	3	1.50	5.3	34.3	6.6	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE061D3, E3	1	230	3	1.50	5.0	34.3	6.3	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE061D4, E4	1	460	3	1.50	2.5	17.0	3.1	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE061DW	1	575	3	1.50	1.8	13.6	2.3	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7½	TWE090D1, E1	1	208	1	2.00	8.5	57.4	10.6	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE090D1, E1	1	230	1	2.00	7.7	57.4	9.6	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE090D3, E3	1	208	3	2.00	6.2	33.9	7.8	15	1	208	3	3.00	9.4	74.9	11.8	20
	TWE090D3, E3	1	230	3	2.00	5.8	33.9	7.3	15	1	230	3	3.00	9.2	74.9	11.5	20
	TWE090D3, E3[b]	1	460	3	2.00	2.9	33.9	3.6	15	1	460	3	3.00	4.6	39.3	5.8	15
	TWE090DW	1	575	3	2.00	2.3	14.4	2.9	15	1	575	3	3.00	3.4	24.6	4.3	15
10	TWE120D1, E1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE120D1, E1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE120D3, E3	1	208	3	3.00	9.4	74.9	11.8	20	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE120D3, E3	1	230	3	3.00	9.2	74.9	11.5	20	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE120D3, E3[b]	1	460	3	3.00	4.6	39.3	5.8	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE120DW, EW	1	575	3	3.00	3.4	24.6	4.3	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12½	TWE150E3	1	208	3	3.00	5.95	23.0	7.4	15	1	208	3	5.00	14.5	98.0	18.1	25
	TWE150E3	1	230	3	3.00	5.5	23.0	6.9	15	1	230	3	5.00	14.3	98.0	17.9	25
	TWE150E3[b]	1	460	3	3.00	2.75	23.0	3.4	15	1	460	3	5.00	6.7	47.0	8.4	15
	TWE150EW	1	575	3	3.00	2.2	18.0	2.8	15	1	575	3	5.00	5.2	-	6.5	15
15	TWE180E3	1	208	3	5.00	14.5	98.0	18.1	25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE180E3	1	230	3	5.00	14.3	98.0	17.9	25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE180E3[b]	1	460	3	5.00	6.7	47.0	8.4	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TWE180EW	1	575	3	5.00	5.2	-	6.5	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20	TWE240E3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	208	3	7.50	20	114.0	25.0	35
	TWE240E3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	230	3	7.50	17.6	126.0	22.0	35
	TWE240E4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	460	3	7.50	9.0	61.4	11.3	20
	TWE240EW	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	575	3	7.50	7.2	49.8	9.0	15

(a) For additional information contact product support.
(b) Field wired for 460V.

Table 55. Unit Wiring — Air Handler — 60Hz

Tons	Unit Model Number	Unit Operating Voltage Range	Minimum Circuit Ampacity	Maximum Fuse or HACR Circuit Breaker Size[a]
5	TWE06D1, E1	187-253	7.5	15
	TWE061D3, E3	187-253	3.3	15
	TWE061D4, E4	414-506	1.6	15
	TWE061DK	342-418	1.8	15
	TWE061DW	518-632	1.6	15
7½	TWE090D1, E1	187-253	8.5	15
	TWE090D3, E3[b]	187-253	6.6	15
	TWE090D3, E3[c]	414-506	3.1	15
	TWE090DK	342-418	3.1	15
	TWE090DW	518-632	3.9	15
10	TWE120D1, E1	187-253	10.6	15
	TWE120D3, E3[b]	187-253	7.8	15
	TWE120D3, E3[c]	414-506	3.6	15
	TWE120DK	342-418	4.5	15
	TWE120DW, EW	518-632	2.9	15
12½	TWE150E3	187-253	6.9	15
	TWE150E3[c]	414-506	3.4	15
	TWE150EK	342-418	4.1	15
	TWE150EW	518-632	2.8	15
15	TWE180E3	187-253	11.8	20
	TWE180E3[c]	414-506	5.8	15
	TWE180EK	342-418	9.8	15
	TWE180EW	518-632	4.3	15
20	TWE240E3	187-253	18.1	25
	TWE240E4	414-506	8.4	15
	TWE240EK	342-418	10.4	15
	TWE240EW	518-632	6.5	15

(a) HACR type circuit breaker per NEC.
(b) When wired for 208-230 volt.
(c) When wired for 460 volt.

Table 56. Unit Wiring with Electric Heat (Single Point Connection) — 5, 7½ and 10 Ton Air Handlers — 60 Hz

Tons	Used With	Heater Model No.	Maximum Fuse Heater KW Rating[a]	Unit Power Supply	Control Stages	Minimum Circuit Ampacity[b]	Maximum Fuse or HACR Circuit Breaker Size[b][c]
5	TWE061D1 TWE061E1	BAYHTRL106A	4.33/5.76	208-230/1/60	1	33/37	35/40
		BAYHTRL112A	8.65/11.52		1	59/67	60/70
		BAYHTRL117A	12.98/17.28		1	85/97	90/100
		BAYHTRL123A	17.30/23.04		2	111/127[d]	125/150
7½	TWE090D1 TWE090E1	BAYHTRL106A	4.33/5.76	208-230/1/60	1	34/38	35/40
		BAYHTRL112A	8.65/11.52		1	60/68[d]	60/70
		BAYHTRL117A	12.98/17.28		1	86/98	90/100
		BAYHTRL123A	17.30/23.04		2	112/128[d]	125/150
		BAYHTRL129A	21.65/28.80		2	138/158[d]	150/175
10	TWE120D1 TWE120E1	BAYHTRL106A	4.33/5.76	208-230/1/60	1	37/41	40/45
		BAYHTRL112A	8.65/11.52		1	63/71[d]	70/80
		BAYHTRL117A	12.98/17.28		1	89/101	90/110
		BAYHTRL123A	17.30/23.04		2	115/131[d]	125/150
		BAYHTRL129A	21.65/28.80		2	141/161[d]	150/175
5	TWE061D3 TWE061E3	BAYHTRL305A	3.75/5.00	208-230/3/60	1	17/19	20/20
		BAYHTRL310A	7.45/9.96		1	30/34	30/35
		BAYHTRL315A	11.25/14.96		1	43/49	45/50
		BAYHTRL325A	18.71/24.92		2	69/79[d]	70/80
7½	TWE090D3 TWE090E3	BAYHTRL305A	3.75/5.00	208-230/3/60	1	20/22	20/25
		BAYHTRL310A	7.45/9.96		1	33/37	35/40
		BAYHTRL315A	11.25/14.96		1	46/52	50/60
		BAYHTRL325A	18.71/24.92		2	72/82[d]	80/90
		BAYHTRL335A	26.20/34.88		2	97/112[e]	100/125
10	TWE120D3 TWE120E3	BAYHTRL305A	3.75/5.00	208-230/3/60	1	21/23	25/25
		BAYHTRL310A	7.45/9.96		1	34/38	35/40
		BAYHTRL315A	11.25/14.96		1	47/53	50/60
		BAYHTRL325A	18.71/24.92		2	73/83[d]	80/90
		BAYHTRL335A	26.20/34.88		2	98/113[e]	100/125
5	TWE061D4 TWE061E4	BAYHTRL405A	5	460/3/60	1	10	15
		BAYHTRL410A	9.96		1	17	20
		BAYHTRL415A	14.96		1	25	25
		BAYHTRL425A	24.92		2	40	40
7½	TWE090D3[f] TWE090E3[f]	BAYHTRL405A	5	460/3/60	1	11	15
		BAYHTRL410A	9.96		1	19	20
		BAYHTRL415A	14.96		1	26	30
		BAYHTRL425A	24.92		2	41	45
		BAYHTRL435A	34.88		2	56	60
10	TWE120D3[f] TWE120E3[f]	BAYHTRL405A	5	460/3/60	1	12	15
		BAYHTRL410A	9.96		1	20	20
		BAYHTRL415A	14.96		1	27	30
		BAYHTRL425A	24.92		2	42	45
		BAYHTRL435A	34.88		2	57	60

Table 56. Unit Wiring with Electric Heat (Single Point Connection) — 5, 7½ and 10 Ton Air Handlers — 60 Hz

Tons	Used With	Heater Model No.	Maximum Fuse Heater KW Rating[a]	Unit Power Supply	Control Stages	Minimum Circuit Ampacity[b]	Maximum Fuse or HACR Circuit Breaker Size[b][c]
5	TWE061DW	BAYHTRLW05A	5	575/3/60	1	8	15
		BAYHTRLW10A	9.96		1	15	15
		BAYHTRLW15A	14.96		1	21	25
		BAYHTRLW25A	24.92		2	33	35
7½	TWE090DW	BAYHTRLW05A	5	575/3/60	1	11	15
		BAYHTRLW10A	9.96		1	17	20
		BAYHTRLW15A	14.96		1	23	25
		BAYHTRLW25A	24.92		2	36	40
		BAYHTRLW35A	34.88		2	48	50
10	TWE120DW TWE120EW	BAYHTRLW05A	5	575/3/60	1	10	15
		BAYHTRLW10A	9.96		1	16	20
		BAYHTRLW15A	14.96		1	22	25
		BAYHTRLW25A	24.92		2	35	35
		BAYHTRLW35A	34.88		2	47	50

(a) kW ratings are at: 208/240V for 208-230V air handlers.
480V for 460V air handlers
600V for 575V air handlers
For other than rated voltage, capacity = (Voltage/Rated Voltage)^2 x Rated Capacity.
(b) Any power supply and circuits must be wired and protected in accordance with local codes.
(c) The HACR circuit breaker is for U.S.A. installations only.
(d) Field wire must be rated at least 75°C.
(e) Field wire must be rated at least 90°C.
(f) With motor field converted to 460V.

Table 57. Unit Wiring with Electric Heat (Single Point Connection) — 12½ - 20 Ton Air Handlers

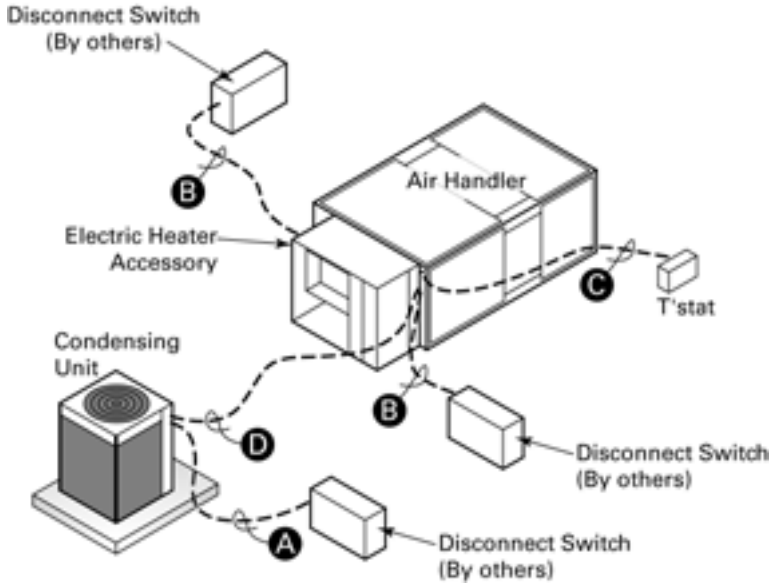
Tons	Used With	Heater Model No.	Heater KW Rating[a]	Unit Power Supply	Control Stages	Minimum Circuit Ampacity[b]	Maximum Fuse or HACR Circuit Breaker Size[b][c]
12½	TWE150E3	BAYHTRM310A	7.50/10.00	208-230/3/60	1	33/37	35/40
		BAYHTRM320A	14.96/19.92		1	59/67	60/70
		BAYHTRM330A	22.50/29.92		2	85/97	90/100
		BAYHTRM350A	37.42/49.84		2	137/157	150/175
15	TWE180E3	BAYHTRM310A	7.50/10.00	208-230/3/60	1	38/42	40/45
		BAYHTRM320A	14.96/19.92		1	64/72	70/80
		BAYHTRM330A	22.50/29.92		2	90/102	90/110
		BAYHTRM350A	37.42/49.84		2	142/162[d]	150/175
20	TWE240E3	BAYHTRM310A	7.50/10.00	208-230/3/60	1	45/49	50/50
		BAYHTRM320A	14.96/19.92		1	71/79	80/80
		BAYHTRM330A	22.50/29.92		2	97/109	100/110
		BAYHTRM350A	37.42/49.84		2	149/169[d]	150/175
12½	TWE150E3[e]	BAYHTRM410A	10	460/3/60	1	19	20
		BAYHTRM420A	19.92		1	34	35
		BAYHTRM430A	29.92		2	49	50
		BAYHTRM450A	49.84		2	79	80
15	TWE180E3[e]	BAYHTRM410A	10	460/3/60	1	21	25
		BAYHTRM420A	19.92		1	36	40
		BAYHTRM430A	29.92		2	51	60
		BAYHTRM450A	49.84		2	81	90
20	TWE240E4	BAYHTRM410A	10	460/3/60	1	24	25
		BAYHTRM420A	19.92		1	39	40
		BAYHTRM430A	29.92		2	54	60
		BAYHTRM450A	49.84		2	84	90
12½	TWE150EW	BAYHTRMW10A	10	575/3/60	1	15	20
		BAYHTRMW20A	19.92		1	27	30
		BAYHTRMW30A	29.92		2	39	40
		BAYHTRMW50A	49.84		2	63	70
15	TWE180EW	BAYHTRMW10A	10	575/3/60	1	17	20
		BAYHTRMW20A	19.92		1	30	30
		BAYHTRMW30A	29.92		2	42	45
		BAYHTRMW50A	49.84		2	67	70
20	TWE240EW	BAYHTRMW10A	10	575/3/60	1	20	25
		BAYHTRMW20A	19.92		1	32	35
		BAYHTRMW30A	29.92		2	45	45
		BAYHTRMW50A	49.84		2	70	70

(a) kW ratings are at: 208/240V for 208-230V air handlers.
480V for 460V air handlers
600V for 575V air handlers
For other than rated voltage, capacity = (Voltage/Rated Voltage)^2 x Rated Capacity.
(b) Any power supply and circuits must be wired and protected in accordance with local codes.
(c) The HACR circuit breaker is for U.S.A. installations only.
(d) Field wire must be rated at least 90°C.
(e) With motor field wired for 460V.

Jobsite Connections

For Electromechanical Controls

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



Note: *When electric heater accessory is used, single point power entry or dual point power entry is field optional. Single point power entry option is through electric heater only.*

TTA073D/TWE090D	TTA150E/TWE150E	(2) TTA073D/TWE150E
TTA090D/TWE090D	TTA180E/TWE180E	(2) TTA090D/TWE180E
TTA090D/TWE120D	TTA180F/TWE180E[(a)]	(2) TTA120D/TWE240E
TTA120D/TWE120D	TTA180E/TWE240E	(2) TTA120F/TWE240E
TTA120E/TWE120E	TTA240E/TWE240E	
TTA120F/TWE120D	TTA240F/TWE240E[(a)]	

(a) Need to manifold the dual circuit indoor unit when connecting to a Manifolded outdoor unit.

Field Wiring:

A. 3 power wires. Line voltage for 3 phase (2 wires for single phase)

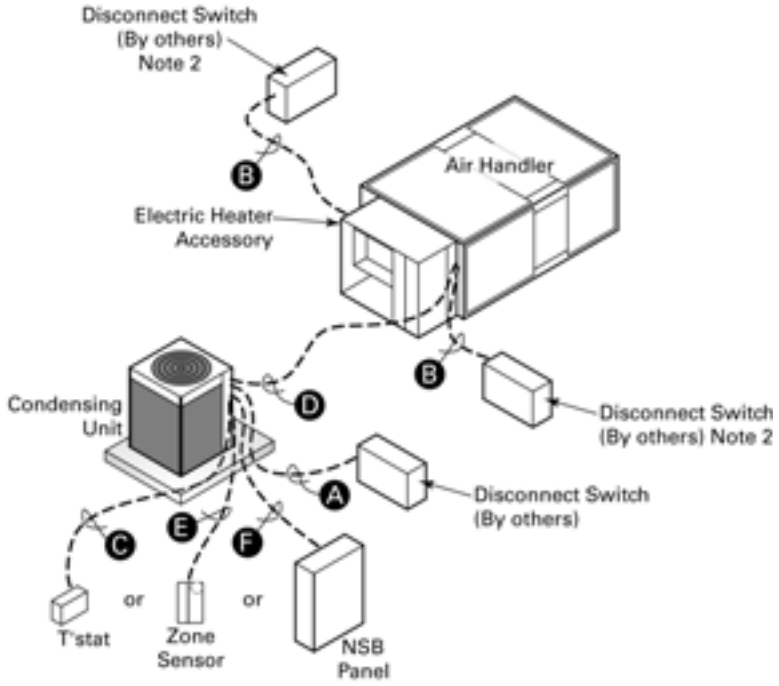
B. 3 power wires. Line voltage for 3 phase (2 wires for single phase)

C. **Cooling only thermostat**: 3 to 7 wires depending on stages of electric heat

D. 3 to 7 wires depending on type of outdoor unit(s)

For ReliaTel™ Controls

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



Notes:

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

TTA073D/TWE090D	TTA120F/TWE120E[(a)]	TTA240F/TWE240E[(a)]
TTA090D/TWE090D	TTA150E/TWE150E	(2) TTA073D/TWE150E
TTA120D/TWE120D	TTA180E/TWE180E	(2) TTA090D/TWE180E
TTA120E/TWE120E	TTA180F/TWE180E[(a)]	(2) TTA120D/TWE240E
TTA120F/TWE120D	TTA240E/TWE240E	(2) TTA120F/TWE240E

(a) Need to manifold the dual circuit indoor unit when connecting to a Manifolded outdoor unit.

Field Wiring:

A. 3 power wires, line voltage for 3 phase, (2 power wires for single phase)

B. 3 power wires, line voltage for 3 phase, (2 power wires for single phase)

C. **Cooling only thermostat**: 3 to 7 wires depending on stages of electric heat
Zone Sensor: 4 to 10 wires depending on zone sensor model [1]

D. 3 to 7 wires depending on type of outdoor unit(s).

[1] See Zone Sensor wiring instructions for wiring information (ReliaTel Controls only).

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Typical Wiring

Figure 17. Typical Single & Dual Compressor - Electromechanical Connection Diagram

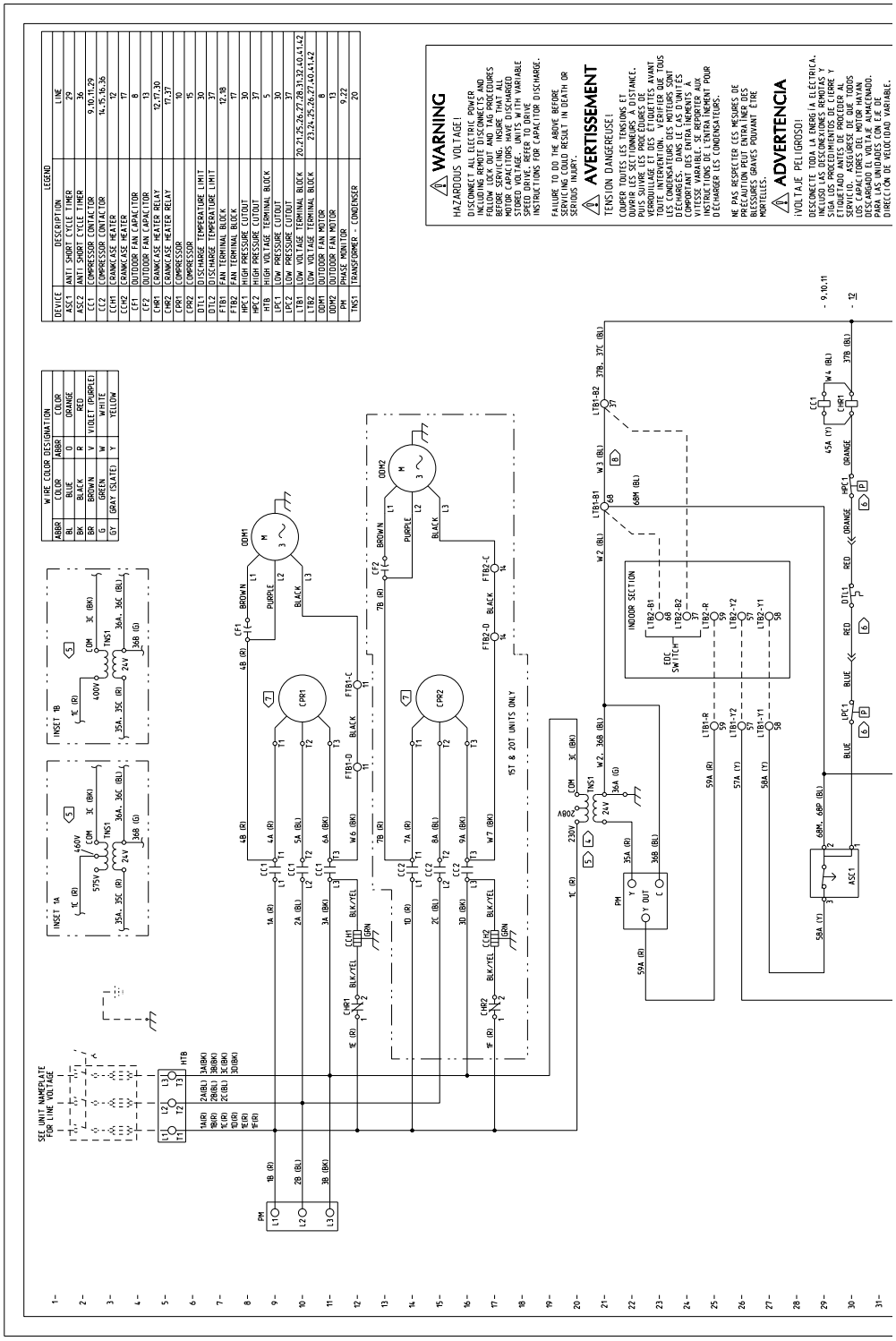


Figure 17. (continued from previous page) Typical Single & Dual Compressor - Electromechanical Connection Diagram

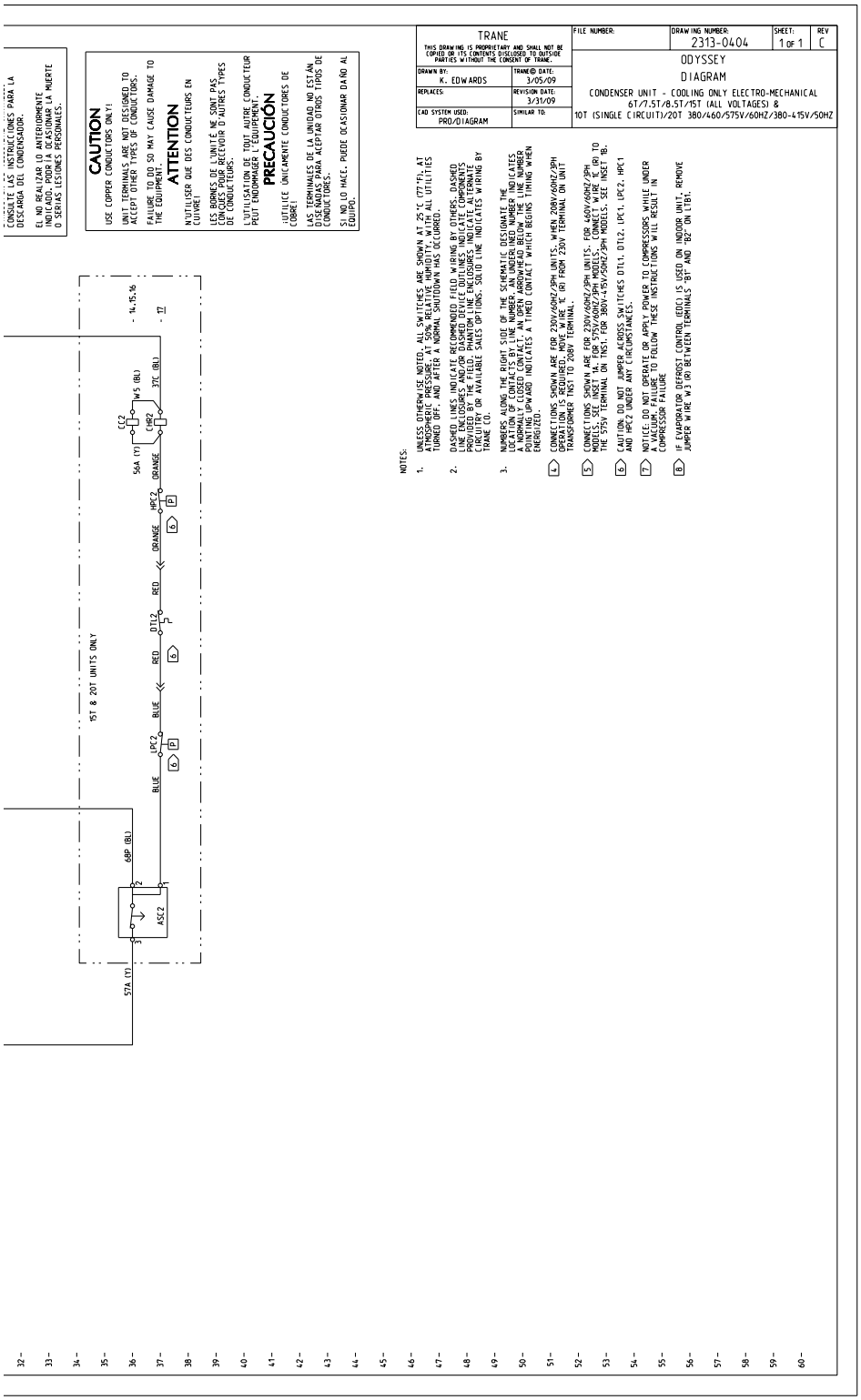
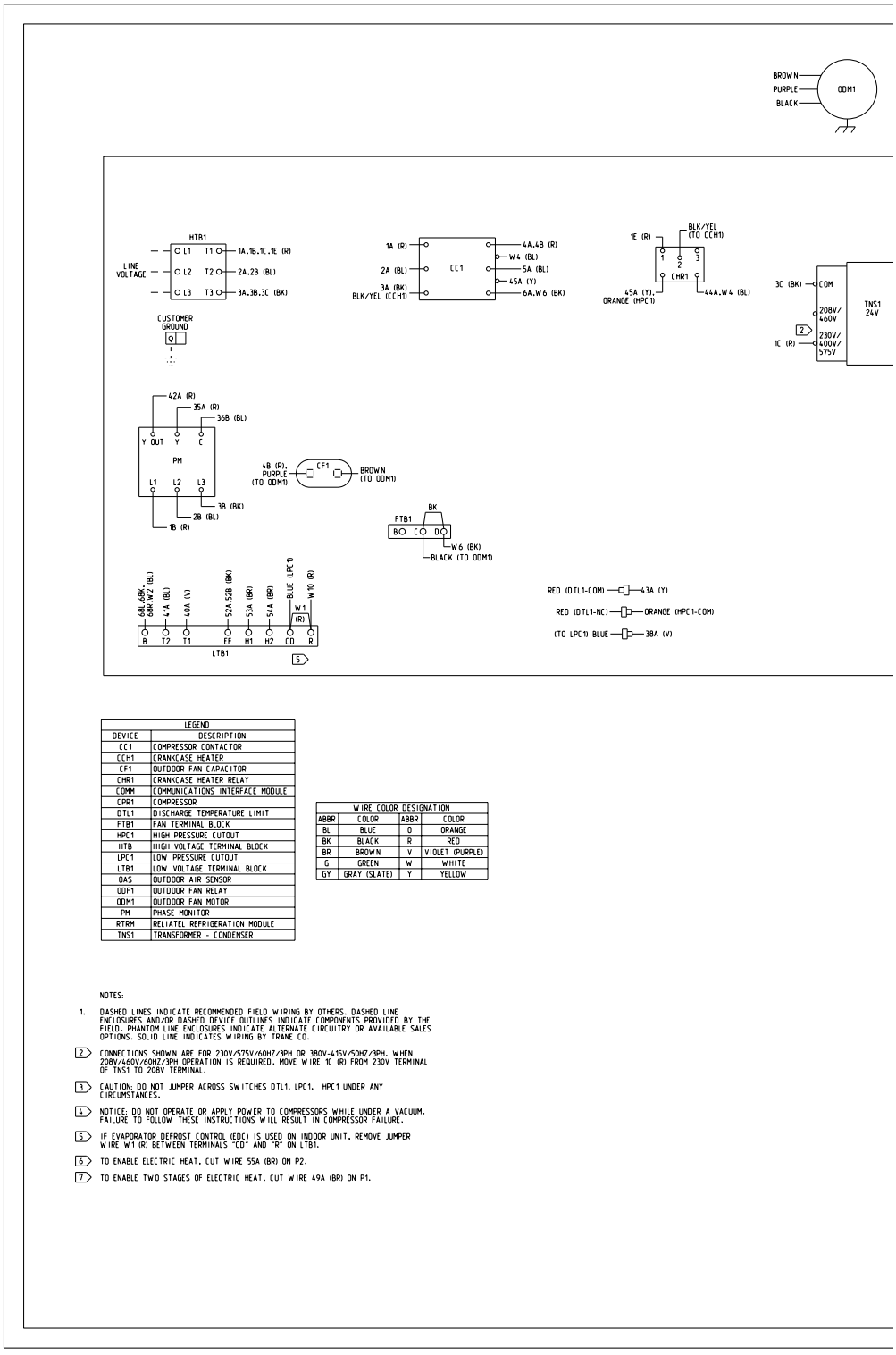


Figure 18. Typical Single Compressor - Connection Diagram



LEGEND	
DEVICE	DESCRIPTION
CC1	COMPRESSOR CONTACTOR
CCH1	CRANKCASE HEATER
CF1	OUTDOOR FAN CAPACITOR
CHR1	CRANKCASE HEATER RELAY
COMM	COMMUNICATIONS INTERFACE MODULE
CPR1	COMPRESSOR
DTL1	DISCHARGE TEMPERATURE LIMIT
FTB1	FAN TERMINAL BLOCK
HPC1	HIGH PRESSURE CUTOUT
HTB	HIGH VOLTAGE TERMINAL BLOCK
LPC1	LOW PRESSURE CUTOUT
LTB1	LOW VOLTAGE TERMINAL BLOCK
OAS	OUTDOOR AIR SENSOR
ODF1	OUTDOOR FAN RELAY
ODM1	OUTDOOR FAN MOTOR
PM	PHASE MONITOR
RTRM	RELIATEL REFRIGERATION MODULE
TNS1	TRANSFORMER - CONDENSER

WIRE COLOR DESIGNATION			
ABBR	COLOR	ABBR	COLOR
BL	BLUE	O	ORANGE
BK	BLACK	R	RED
BR	BROWN	V	VIOLET (PURPLE)
G	GREEN	W	WHITE
GY	GRAY (SLATE)	Y	YELLOW

NOTES:

1. DASHED LINES INDICATE RECOMMENDED FIELD WIRING BY OTHERS. DASHED LINE ENCLOSURES AND/OR DASHED DEVICE OUTLINES INDICATE COMPONENTS PROVIDED BY THE FIELD. PHANTOM LINE ENCLOSURES INDICATE ALTERNATE CIRCUITRY OR AVAILABLE SALES OPTIONS. SOLID LINE INDICATES WIRING BY TRANE CO.

2. CONNECTIONS SHOWN ARE FOR 230V/575V/60HZ/3PH OR 380V-415V/50HZ/3PH. WHEN 208V/460V/60HZ/3PH OPERATION IS REQUIRED. MOVE WIRE 1C (R) FROM 230V TERMINAL OF TNS1 TO 208V TERMINAL.

3. CAUTION: DO NOT JUMPER ACROSS SWITCHES DTL1. LPC1. HPC1 UNDER ANY CIRCUMSTANCES.

4. NOTICE: DO NOT OPERATE OR APPLY POWER TO COMPRESSORS WHILE UNDER A VACUUM. FAILURE TO FOLLOW THESE INSTRUCTIONS WILL RESULT IN COMPRESSOR FAILURE.

5. IF EVAPORATOR DEFROST CONTROL (EDC) IS USED ON INDOOR UNIT. REMOVE JUMPER WIRE W1 (R) BETWEEN TERMINALS "CO" AND "R" ON LTB1.

6. TO ENABLE ELECTRIC HEAT. CUT WIRE 55A (BR) ON P2.

7. TO ENABLE TWO STAGES OF ELECTRIC HEAT. CUT WIRE 49A (BR) ON P1.

Figure 18. (continued from previous page) Typical Single Compressor - Connection Diagram

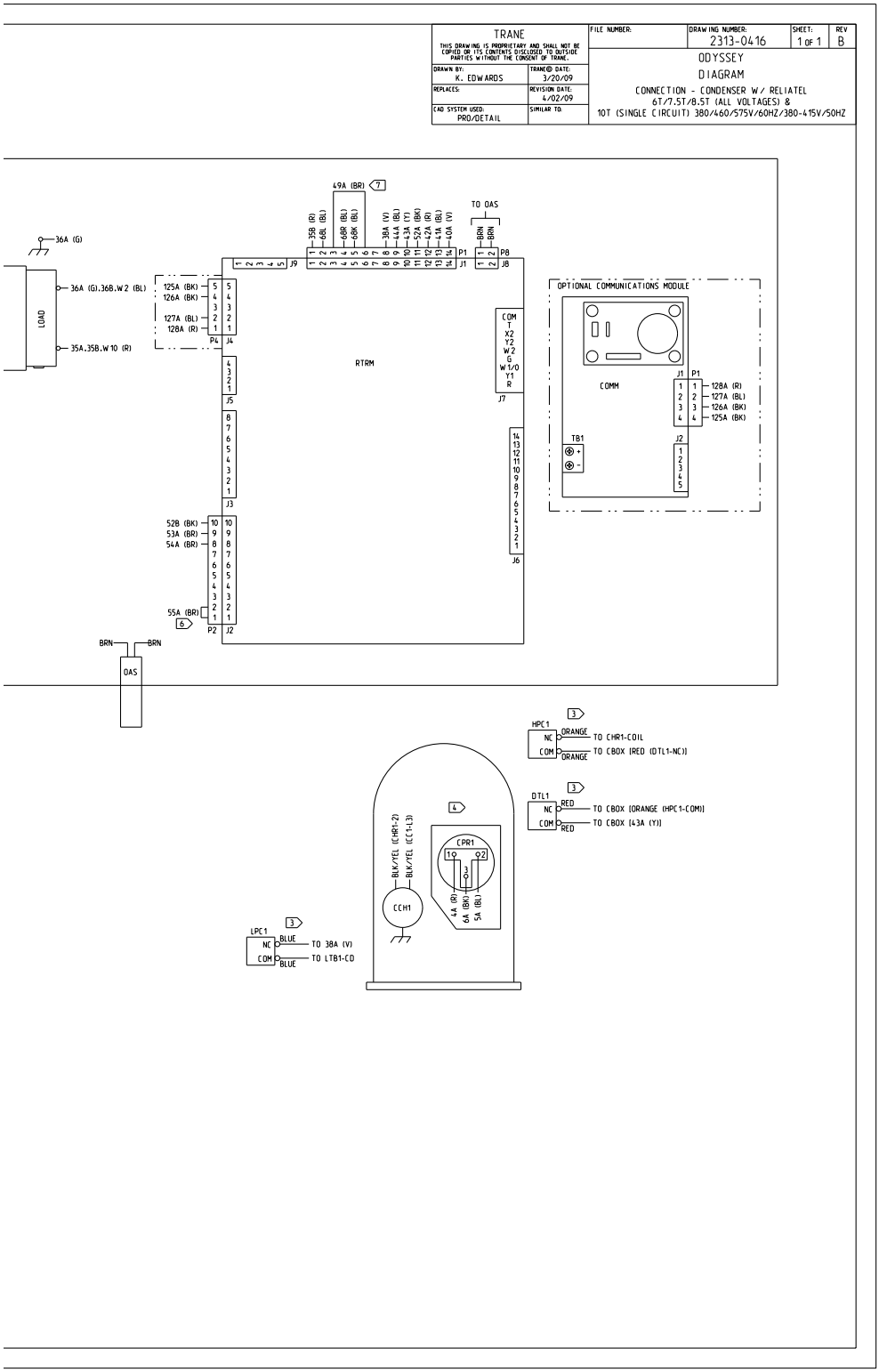


Figure 19. Typical Dual Compressor - Connection Diagram

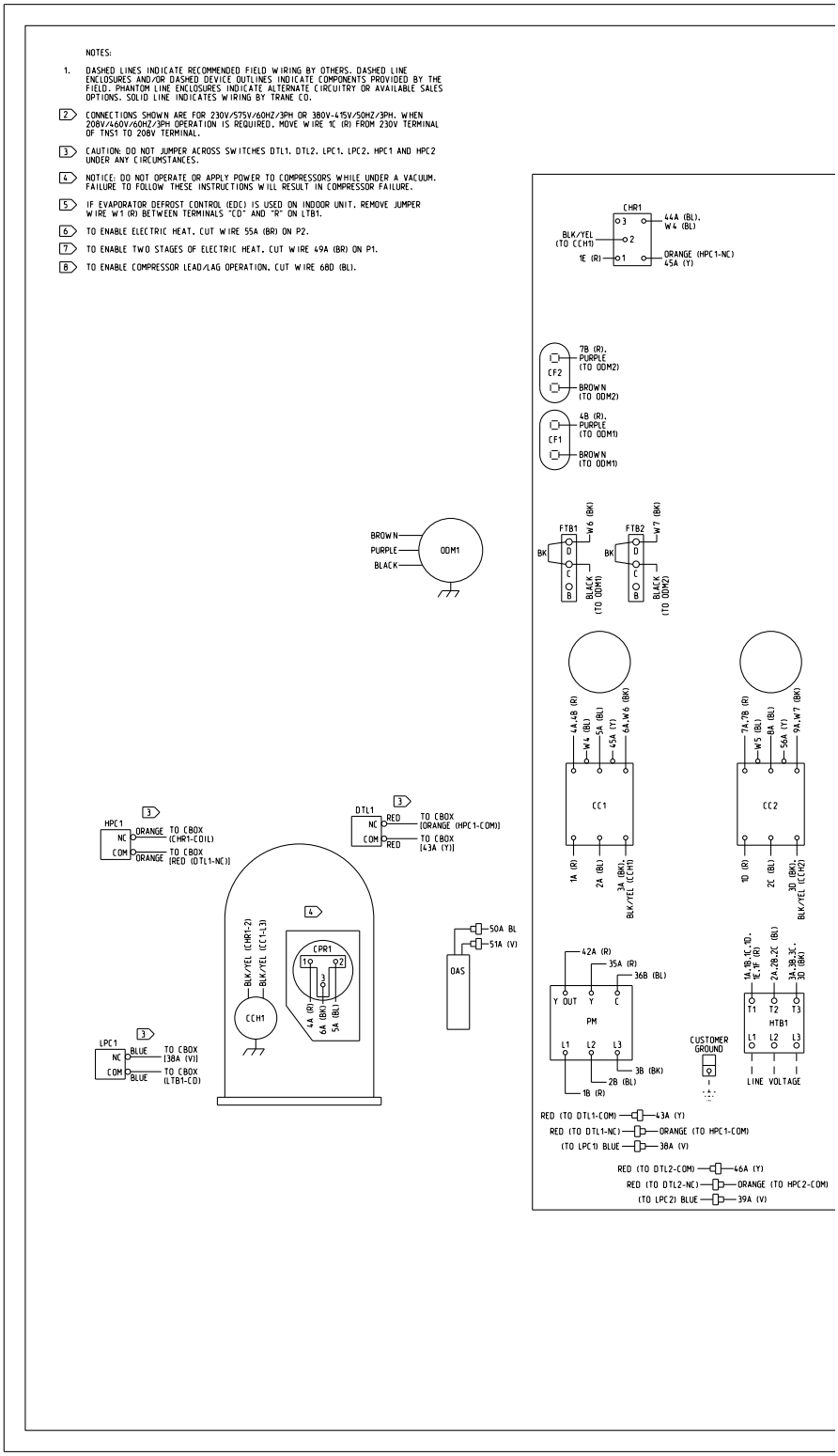
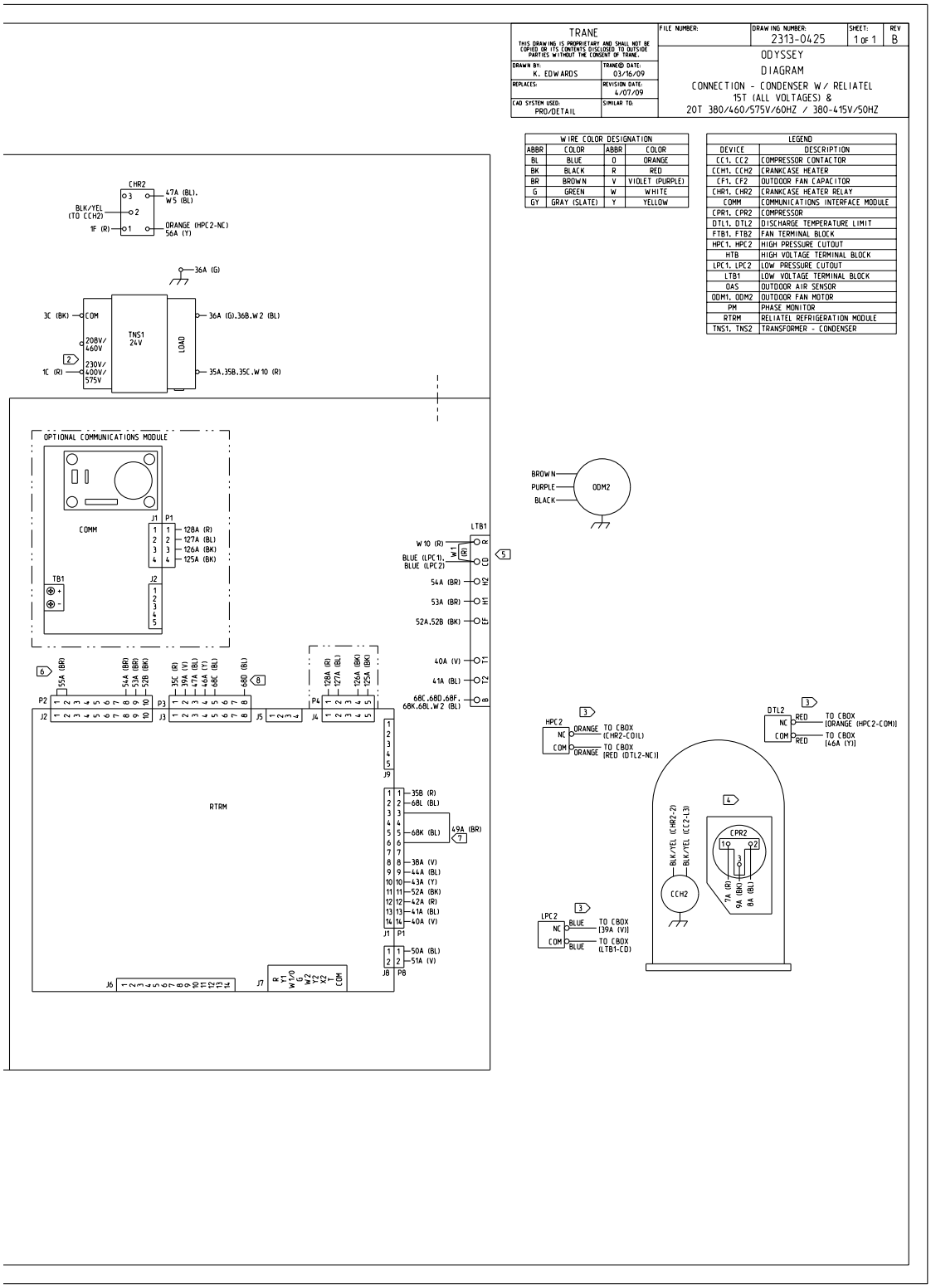


Figure 19. (continued from previous page) Typical Dual Compressor - Connection Diagram



Typical Wiring

Figure 20. Typical Power/Control Diagram (Single and Dual Compressor)

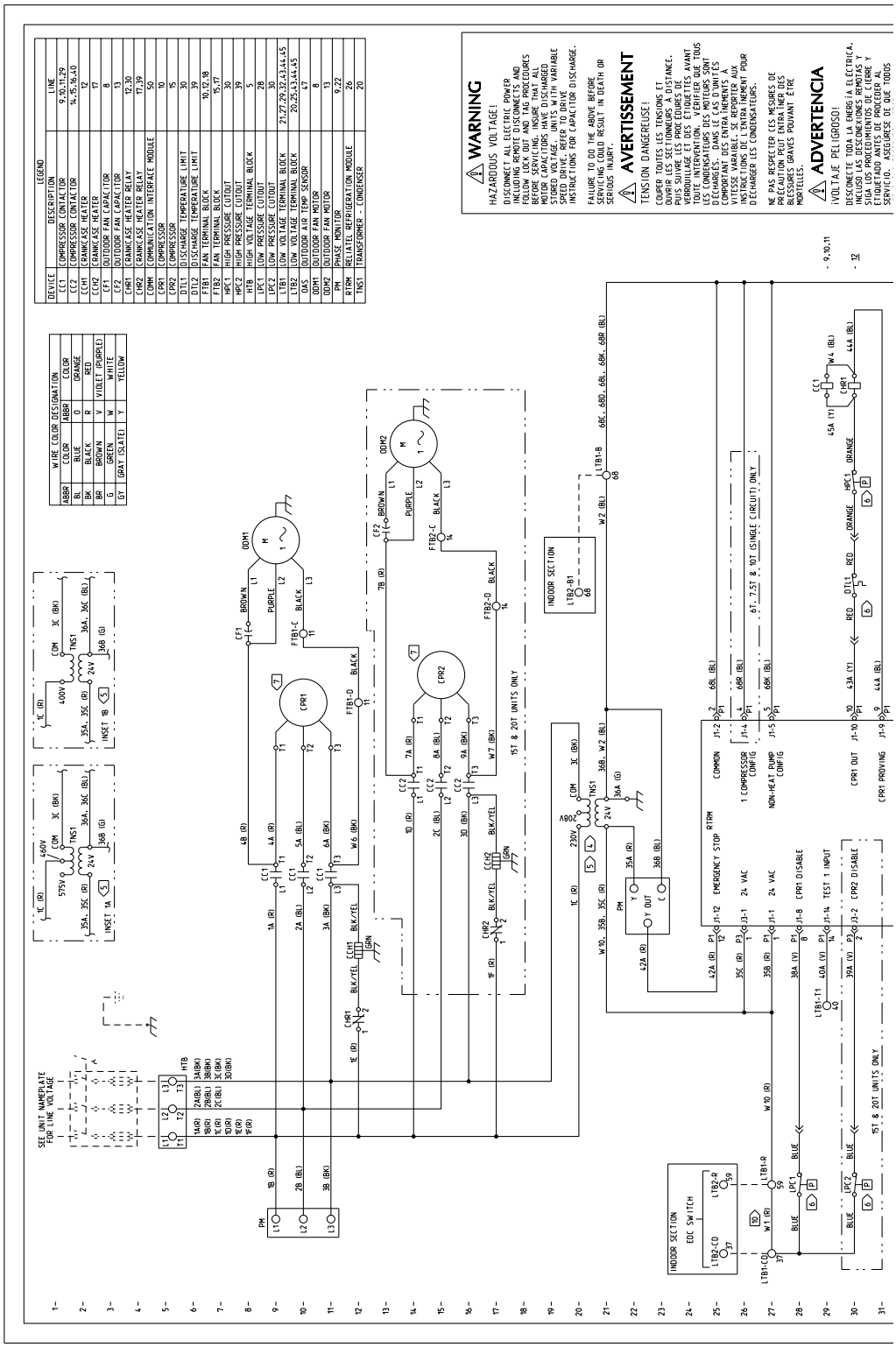
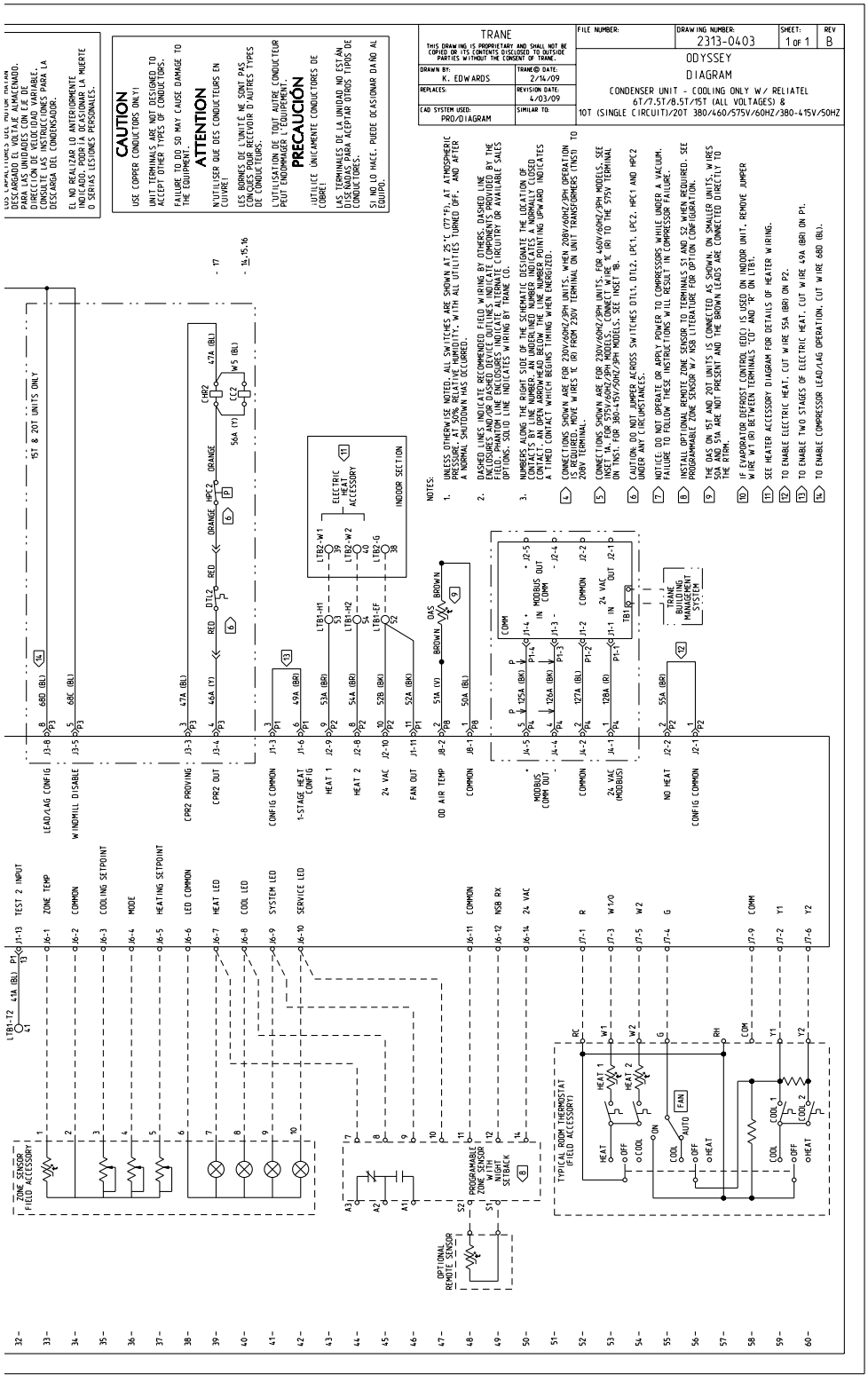


Figure 20. (continued from previous page) Typical Power/Control Diagram (Single and Dual Compressor)



Typical Wiring

Figure 21. Typical Air Handler Power/Control and Connection Diagram

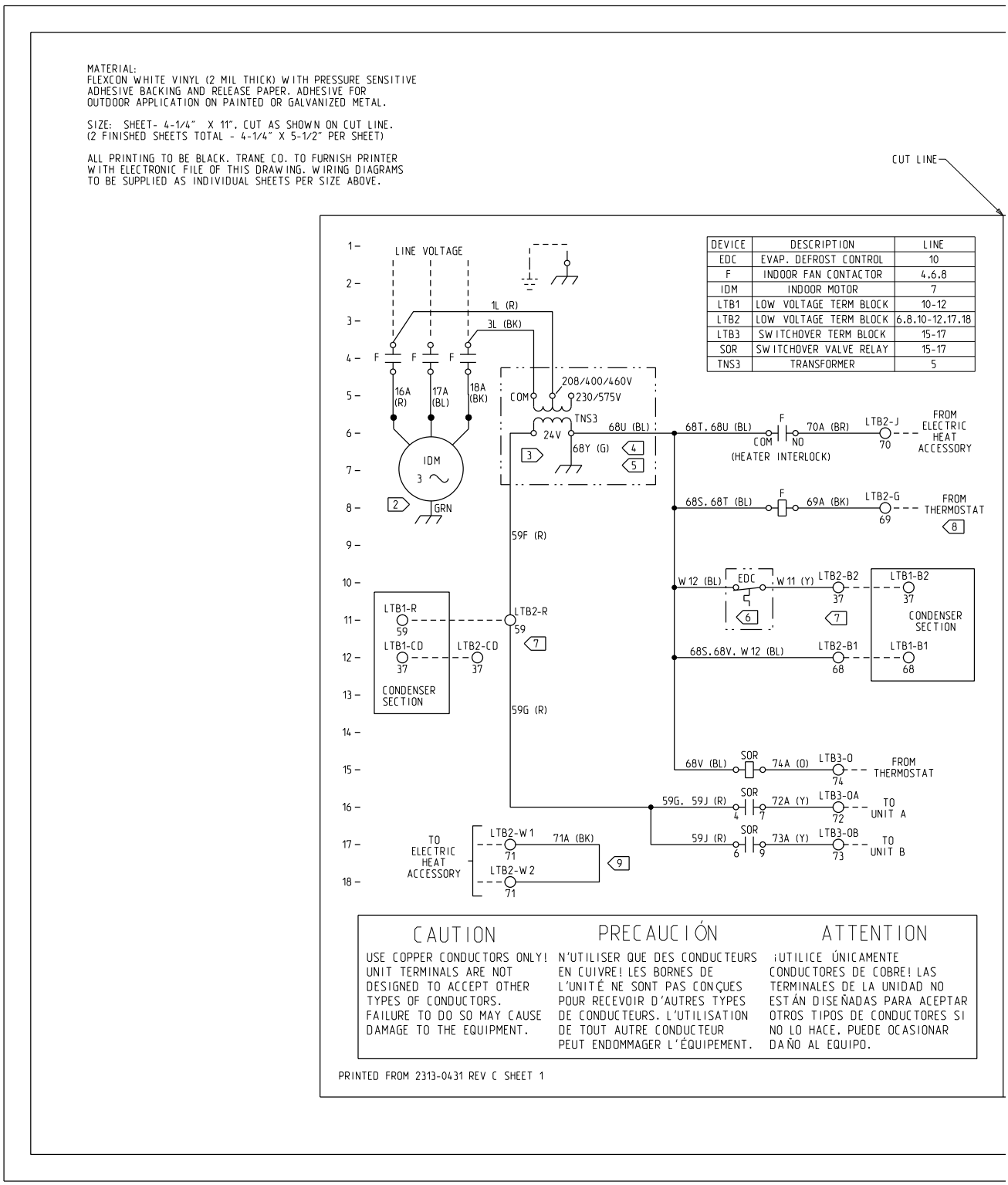
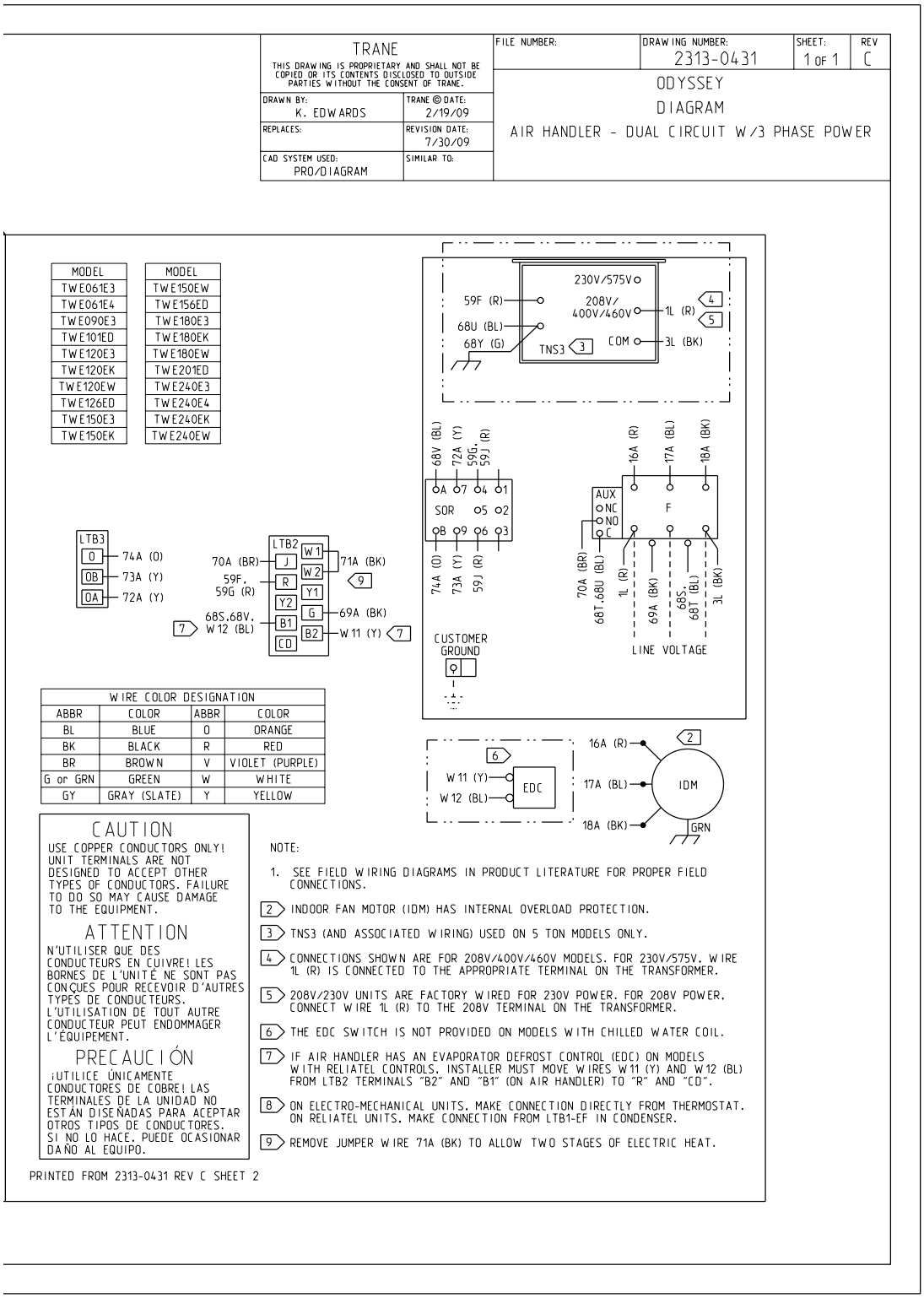


Figure 21. (continued from previous page) Typical Air Handler Power/Control and Connection Diagram



Dimensional Data

Figure 22. 6-7 1/2 Ton Condensing Unit, Single Compressor

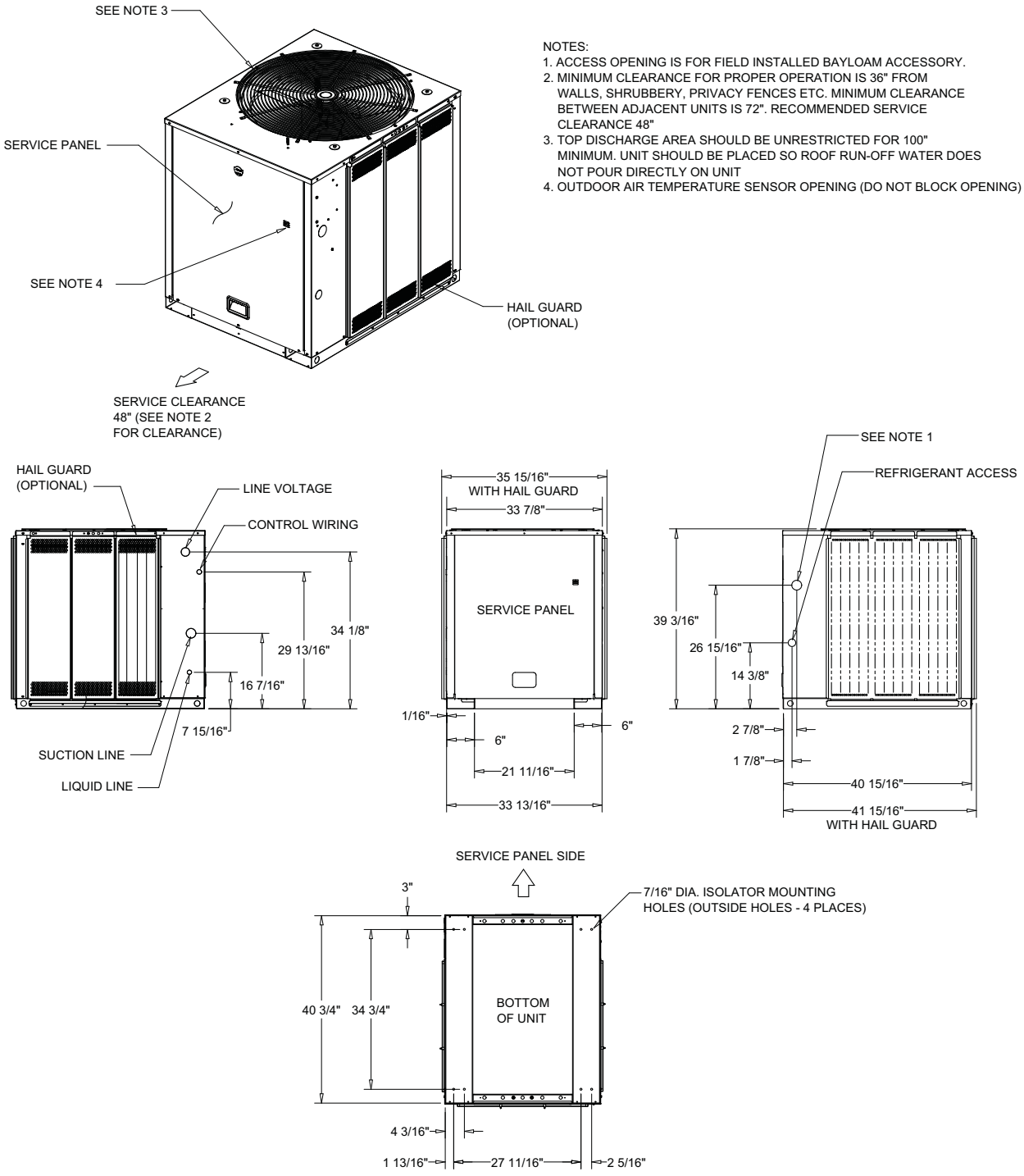
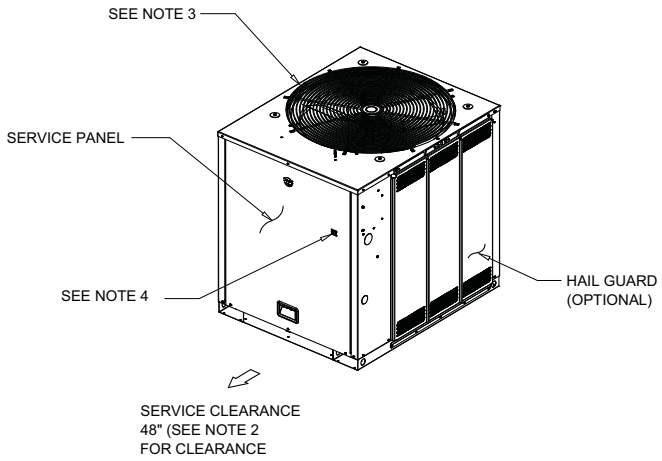
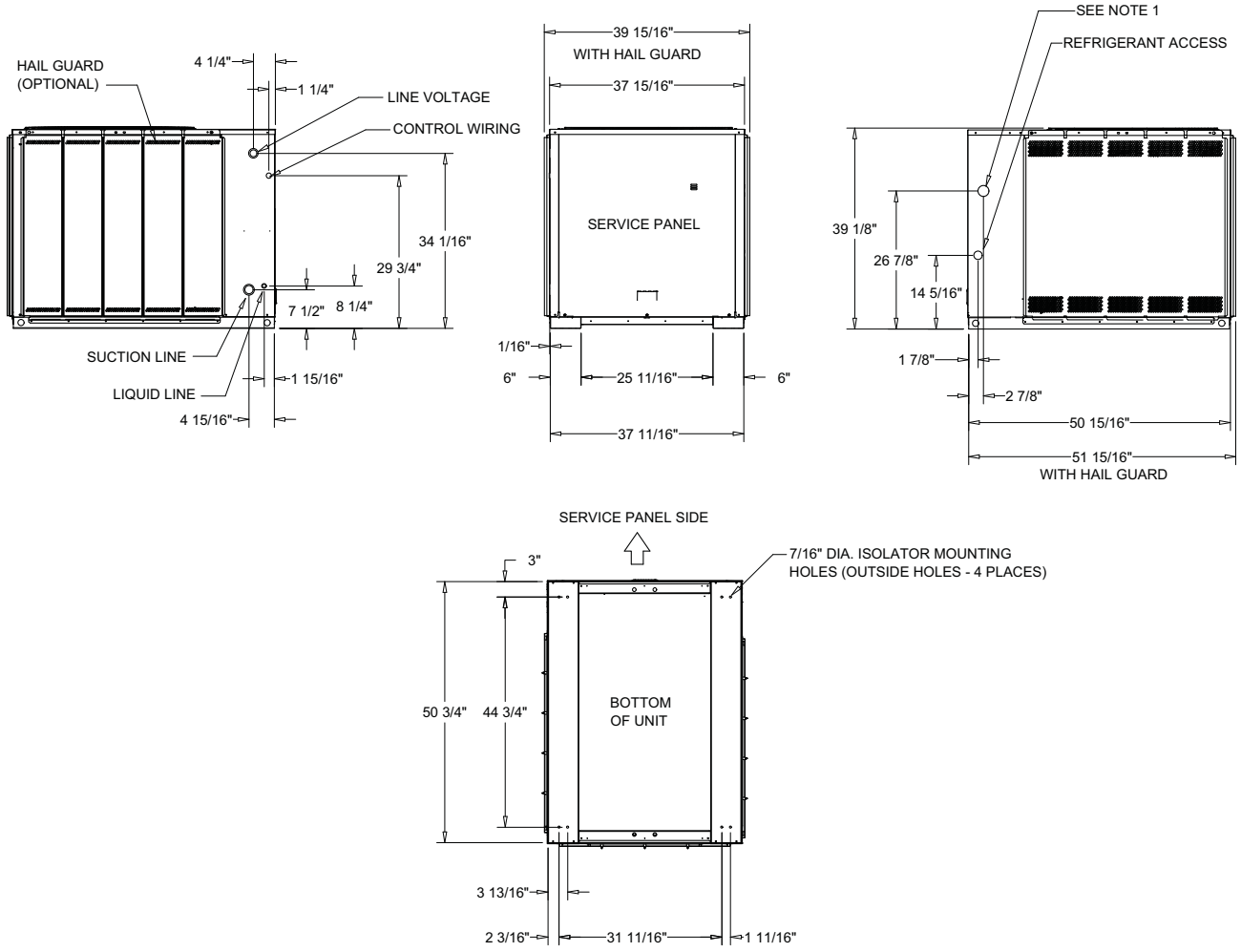


Figure 23. 10 Ton Condensing Unit, Single Compressor



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



Dimensional Data

Figure 24. 10 Ton Condensing Unit, Dual Compressor

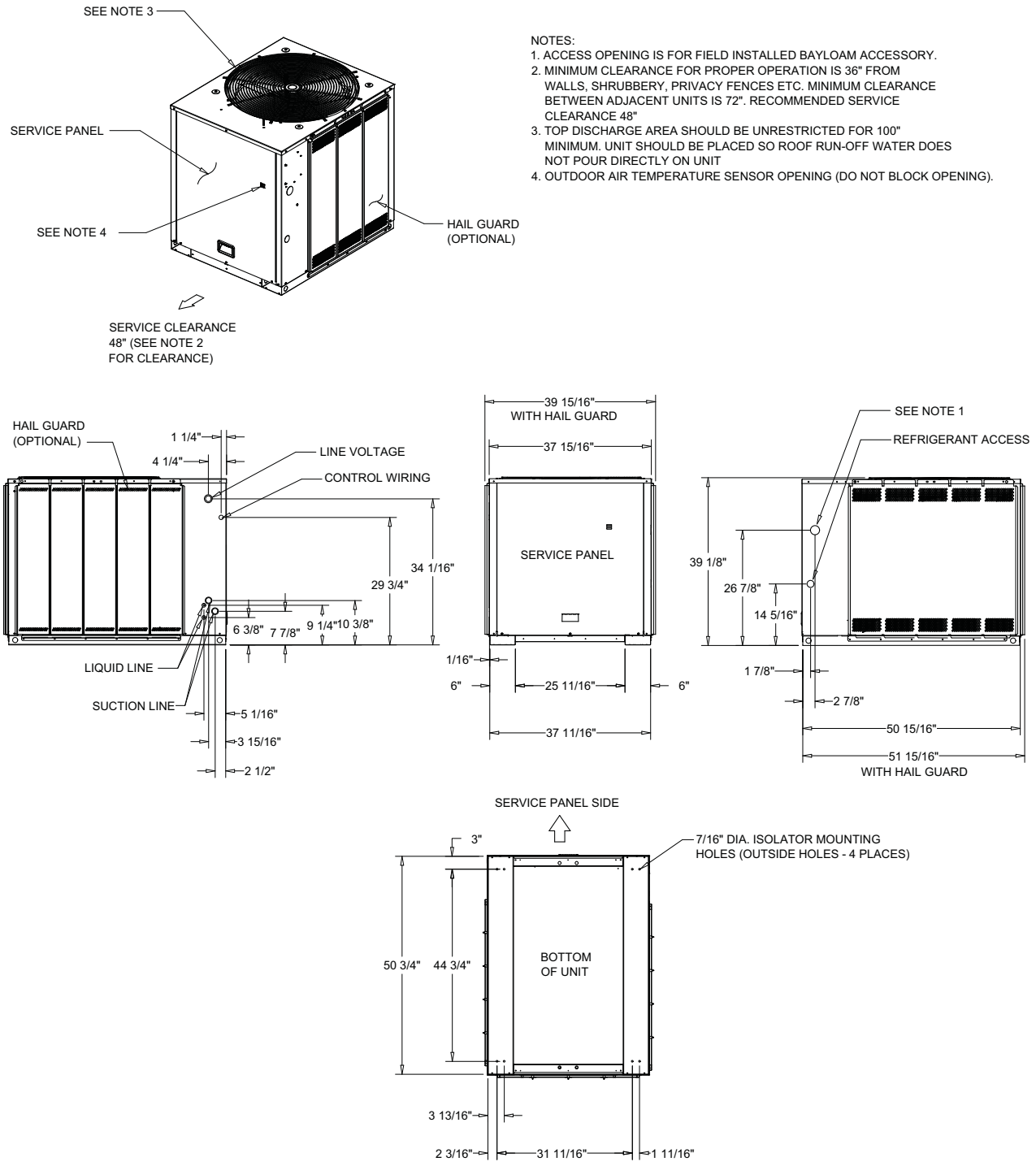
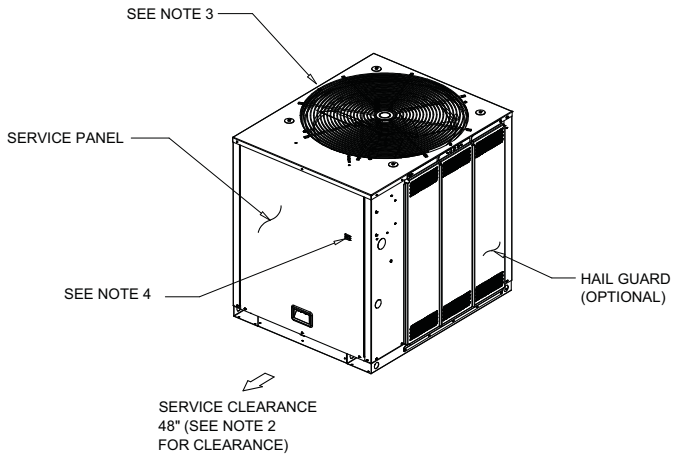
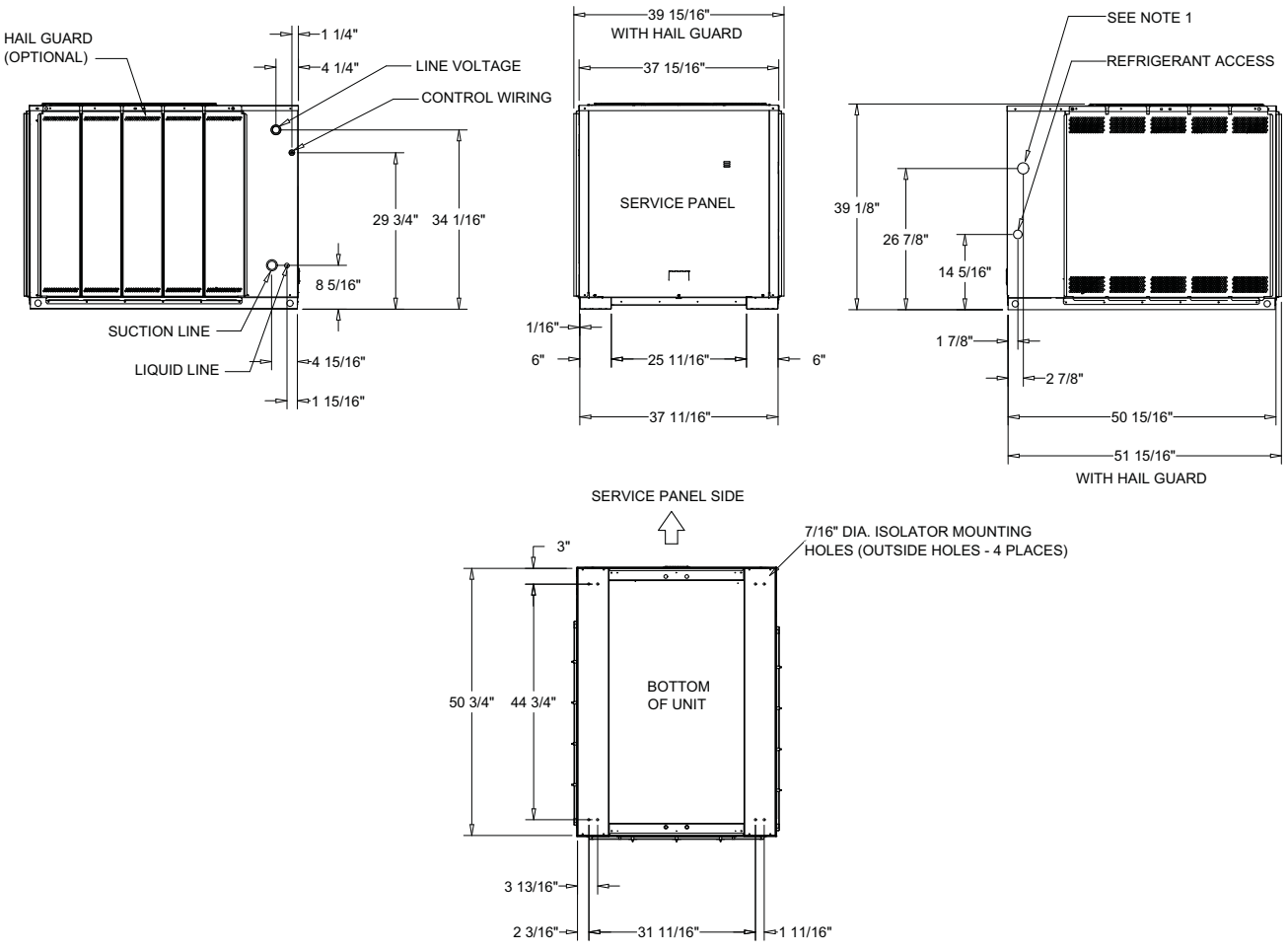


Figure 25. 10 Ton Condensing Unit, Manifolded Compressor

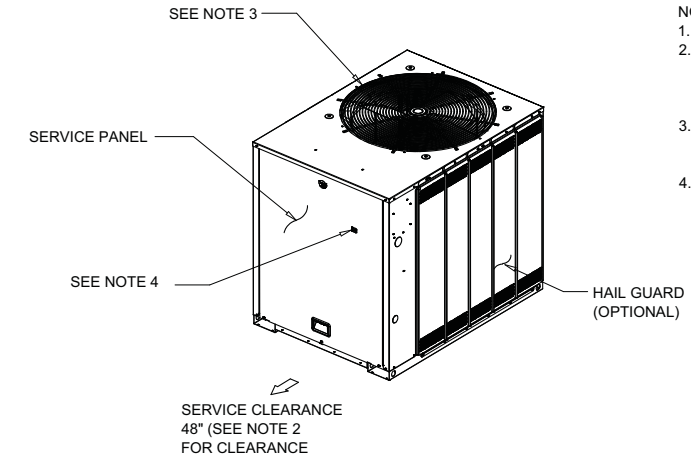


NOTES:
1. ACCESS OPENING IS FOR FIELD INSTALLED BAYLOAM ACCESSORY.
2. MINIMUM CLEARANCE FOR PROPER OPERATION IS 36" FROM WALLS, SHRUBBERY, PRIVACY FENCES ETC. MINIMUM CLEARANCE BETWEEN ADJACENT UNITS IS 72". RECOMMENDED SERVICE CLEARANCE 48"
3. TOP DISCHARGE AREA SHOULD BE UNRESTRICTED FOR 100" MINIMUM.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



Dimensional Data

Figure 26. 12 Ton Condensing Unit, Dual Compressor



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

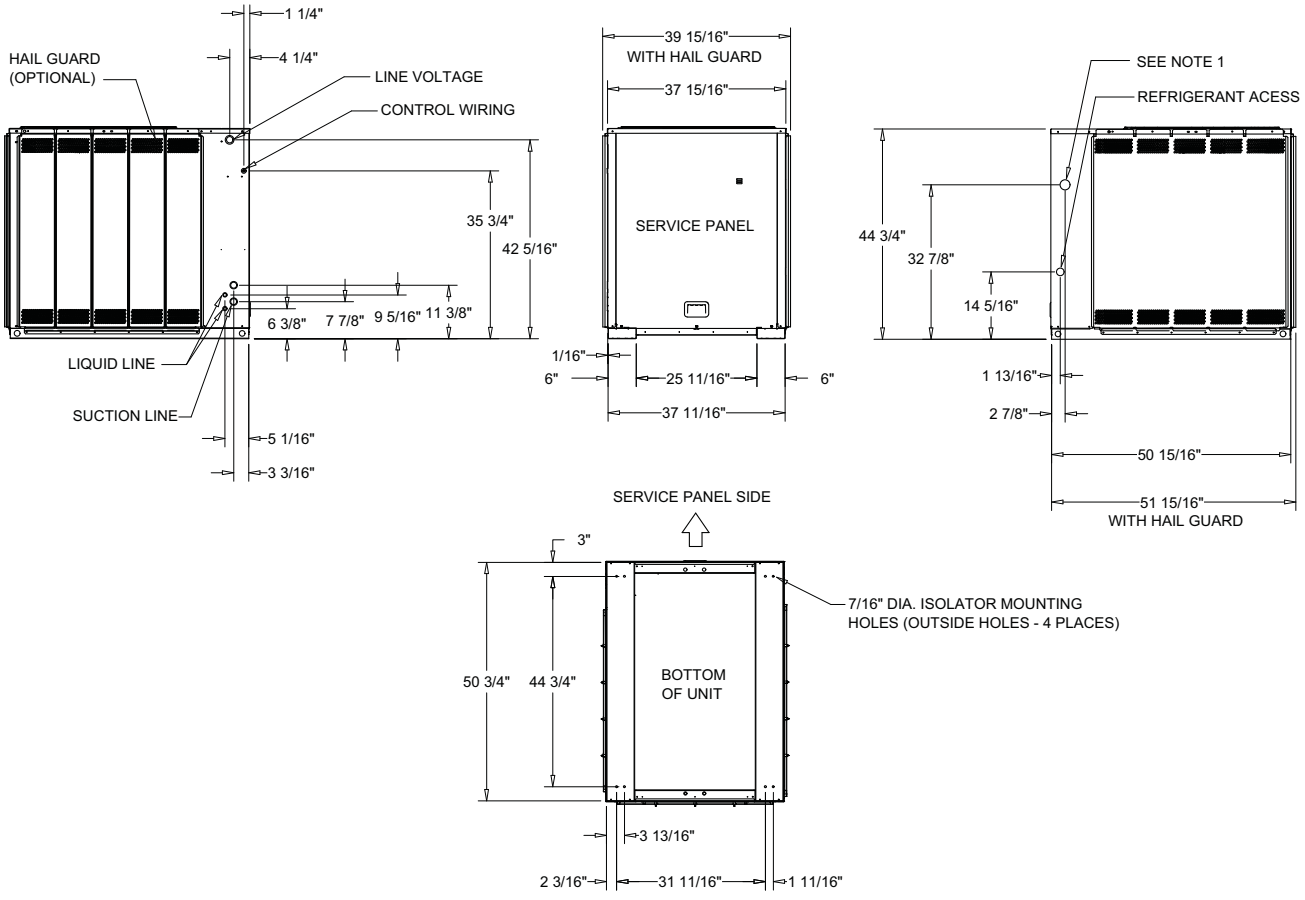
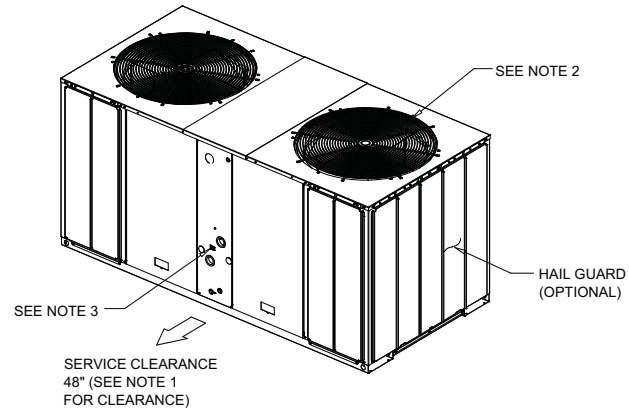
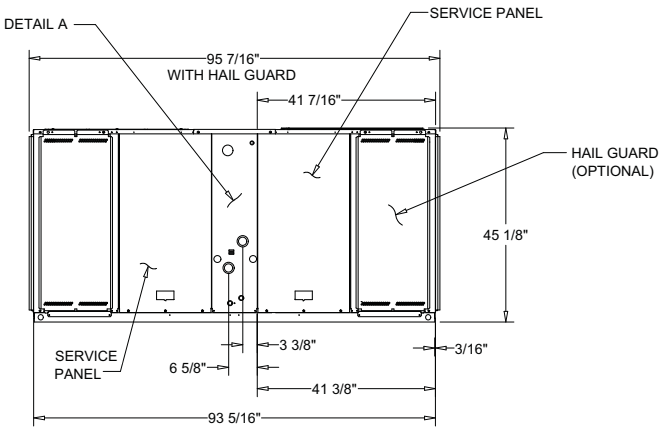
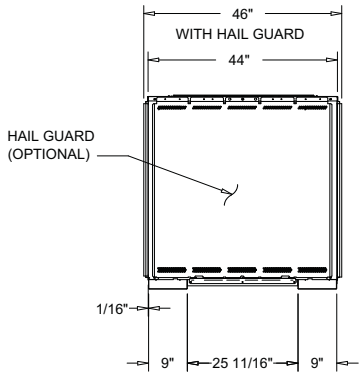


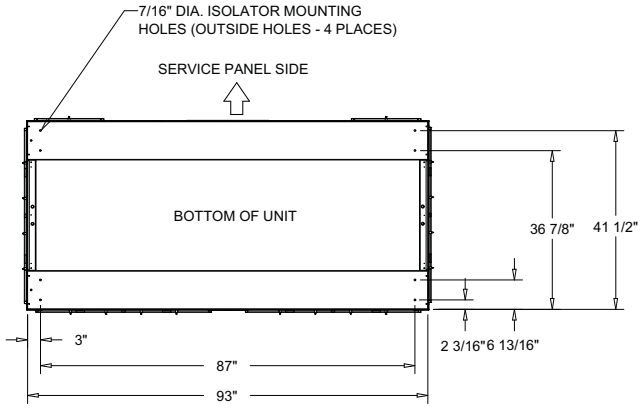
Figure 27. 15-20 Ton Condensing Unit, Dual Compressor

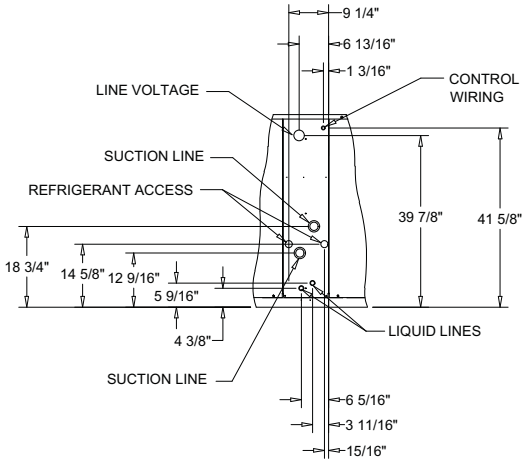


NOTES:
1. MINIMUM CLEARANCE FOR PROPER OPERATION IS 36" FROM WALLS, SHRUBBERY, PRIVACY FENCES ETC. MINIMUM CLEARANCE BETWEEN ADJACENT UNITS IS 72". RECOMMENDED SERVICE CLEARANCE 48"
2. TOP DISCHARGE AREA SHOULD BE UNRESTRICTED FOR 100" MINIMUM. UNIT SHOULD BE PLACED SO ROOF RUN-OFF WATER DOES NOT POUR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





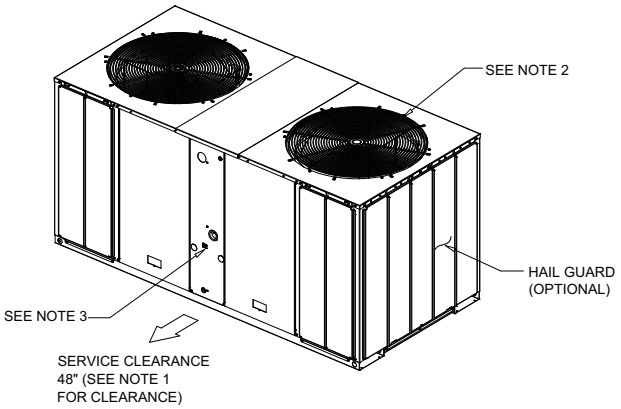




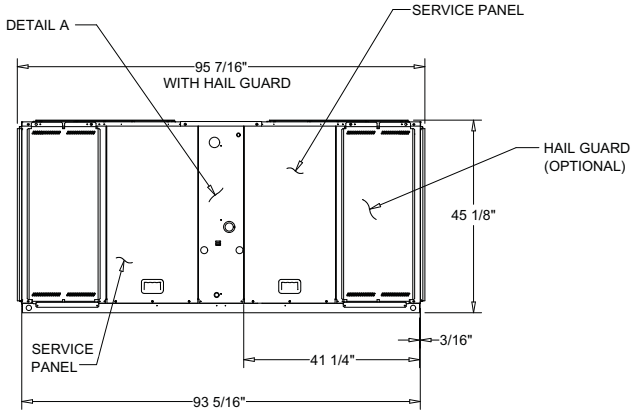
FRONT DETAIL A
DIMENSIONAL DETAIL

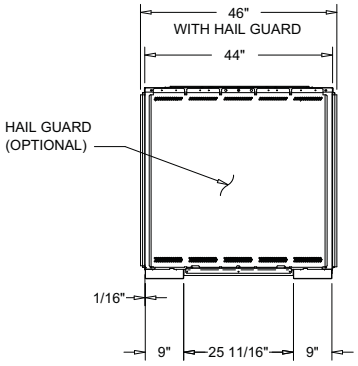
Dimensional Data

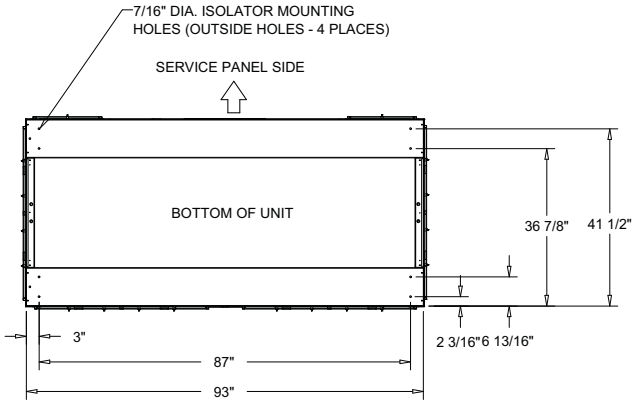
Figure 28. 15-20 Ton Condensing Unit, Manifolded Compressor

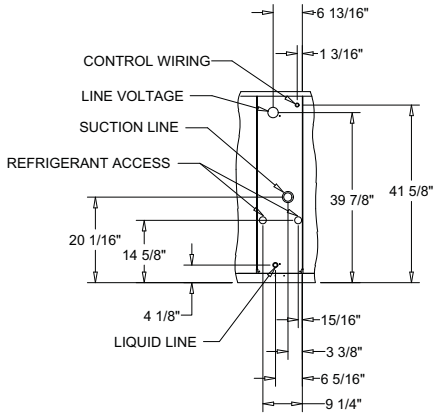


NOTES:
1. MINIMUM CLEARANCE FOR PROPER OPERATION IS 36" FROM WALLS, SHRUBBERY, PRIVACY FENCES ETC. MINIMUM CLEARANCE BETWEEN ADJACENT UNITS IS 72". RECOMMENDED SERVICE CLEARANCE 48"
2. TOP DISCHARGE AREA SHOULD BE UNRESTRICTED FOR 100" MINIMUM. UNIT SHOULD BE PLACED SO ROOF RUN-OFF WATER DOES NOT POUR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



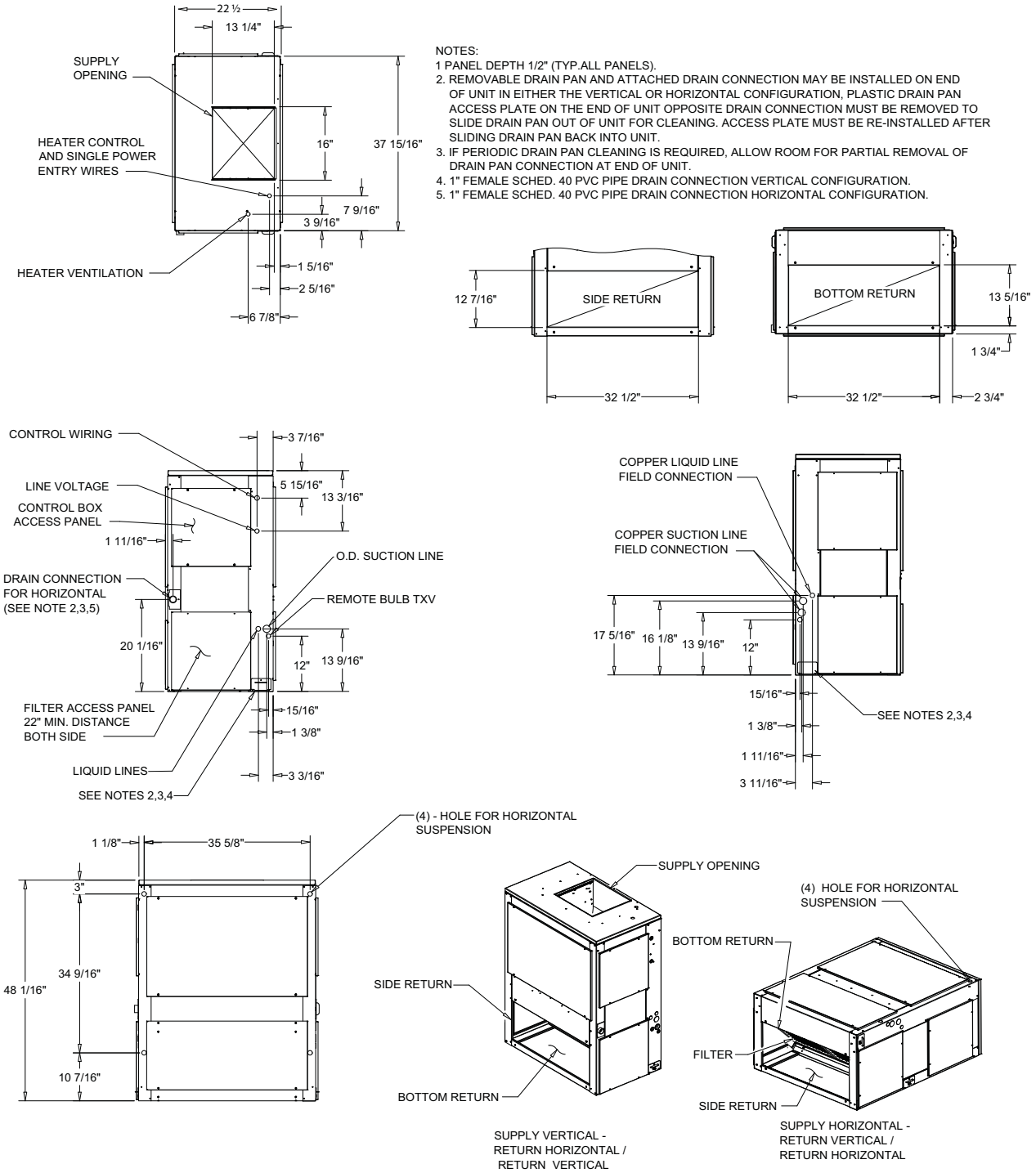






FRONT DETAIL A
DIMENSIONAL DETAIL

Figure 29. 5 Ton Air Handler, Single Circuit



Dimensional Data

Figure 30. 5 Ton Air Handler, Dual Circuit

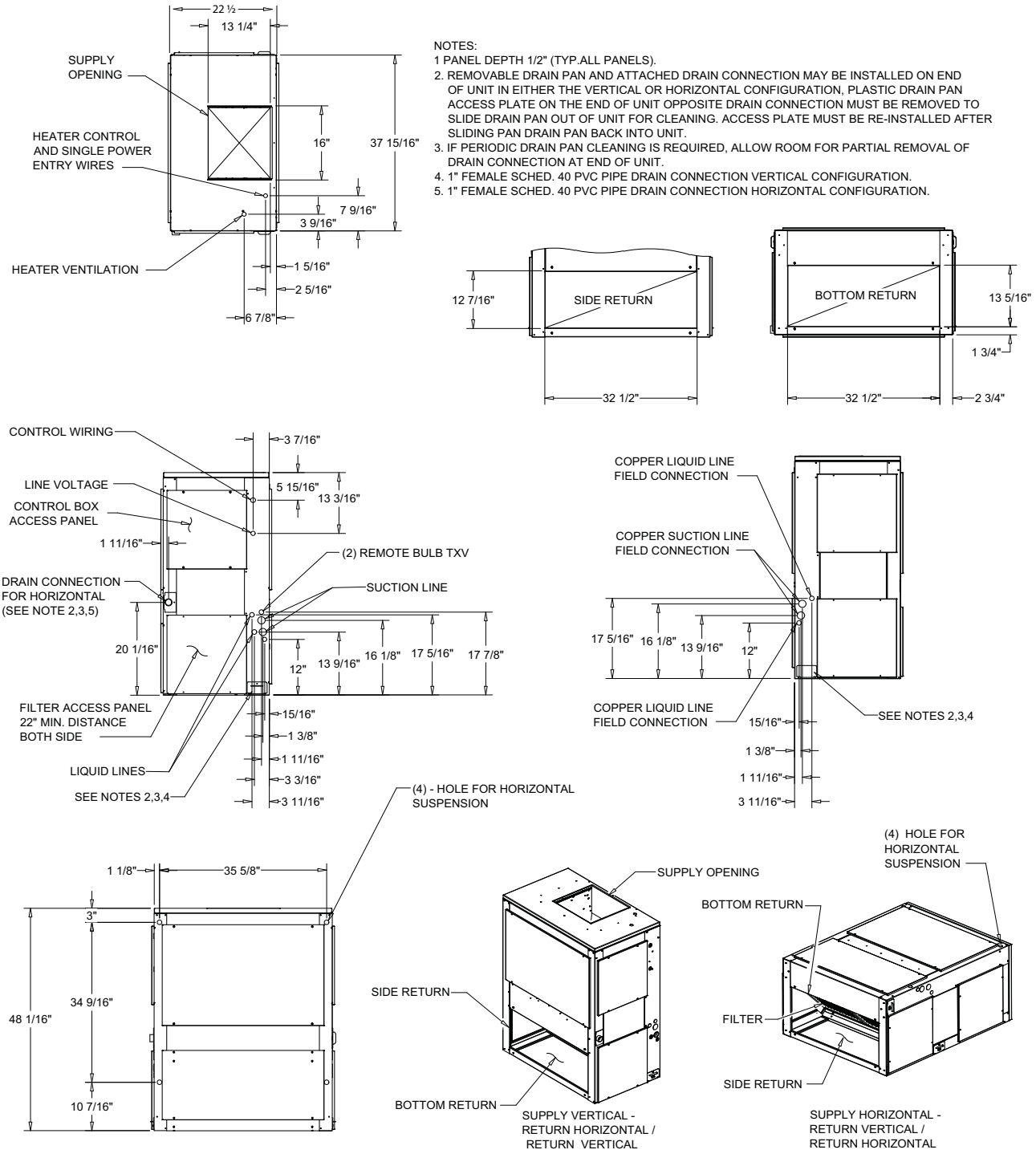
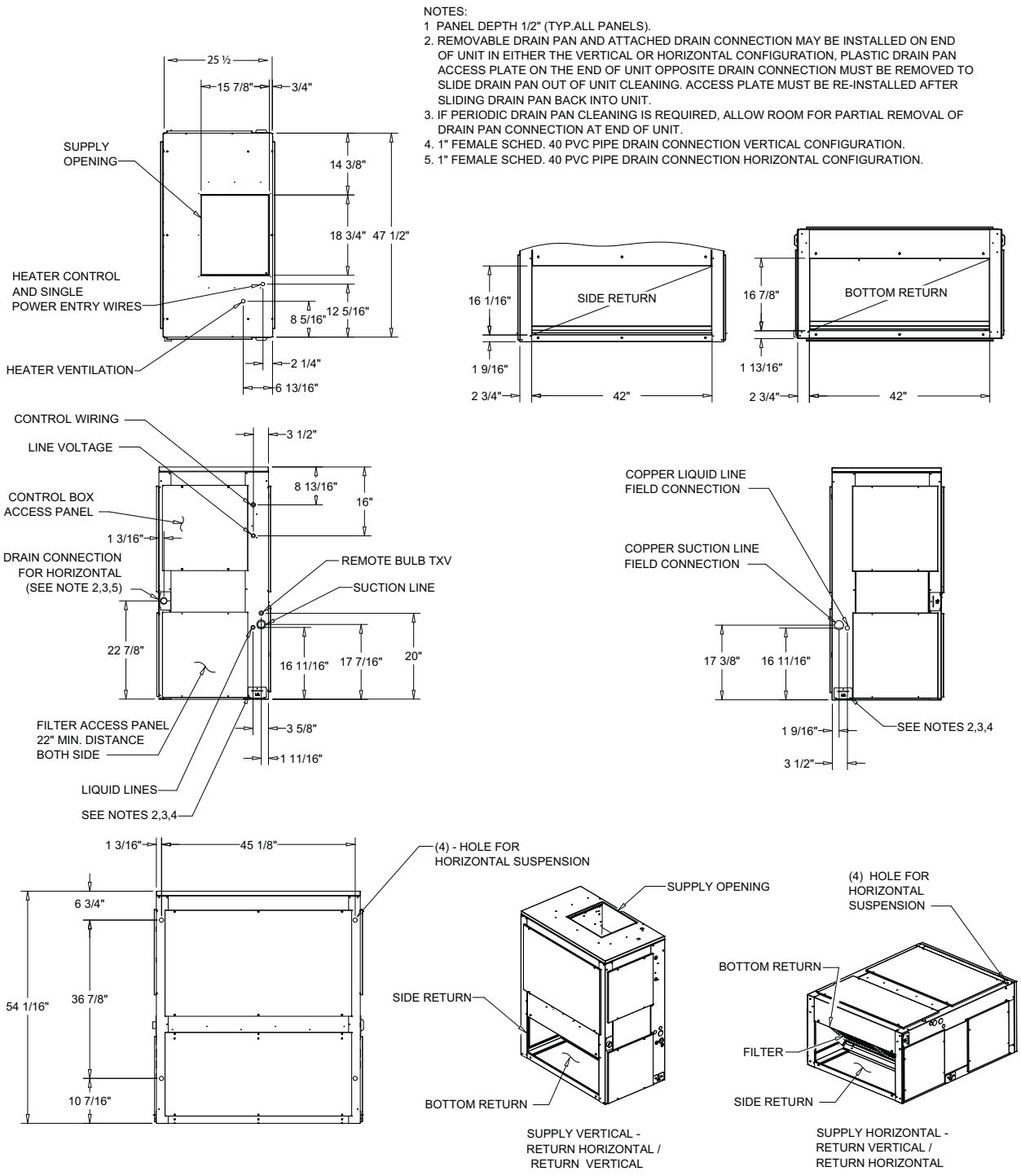


Figure 31. 7 1/2 Ton Air Handler, Single Circuit



Dimensional Data

Figure 32. 7 1/2 Ton Air Handler, Dual Circuit

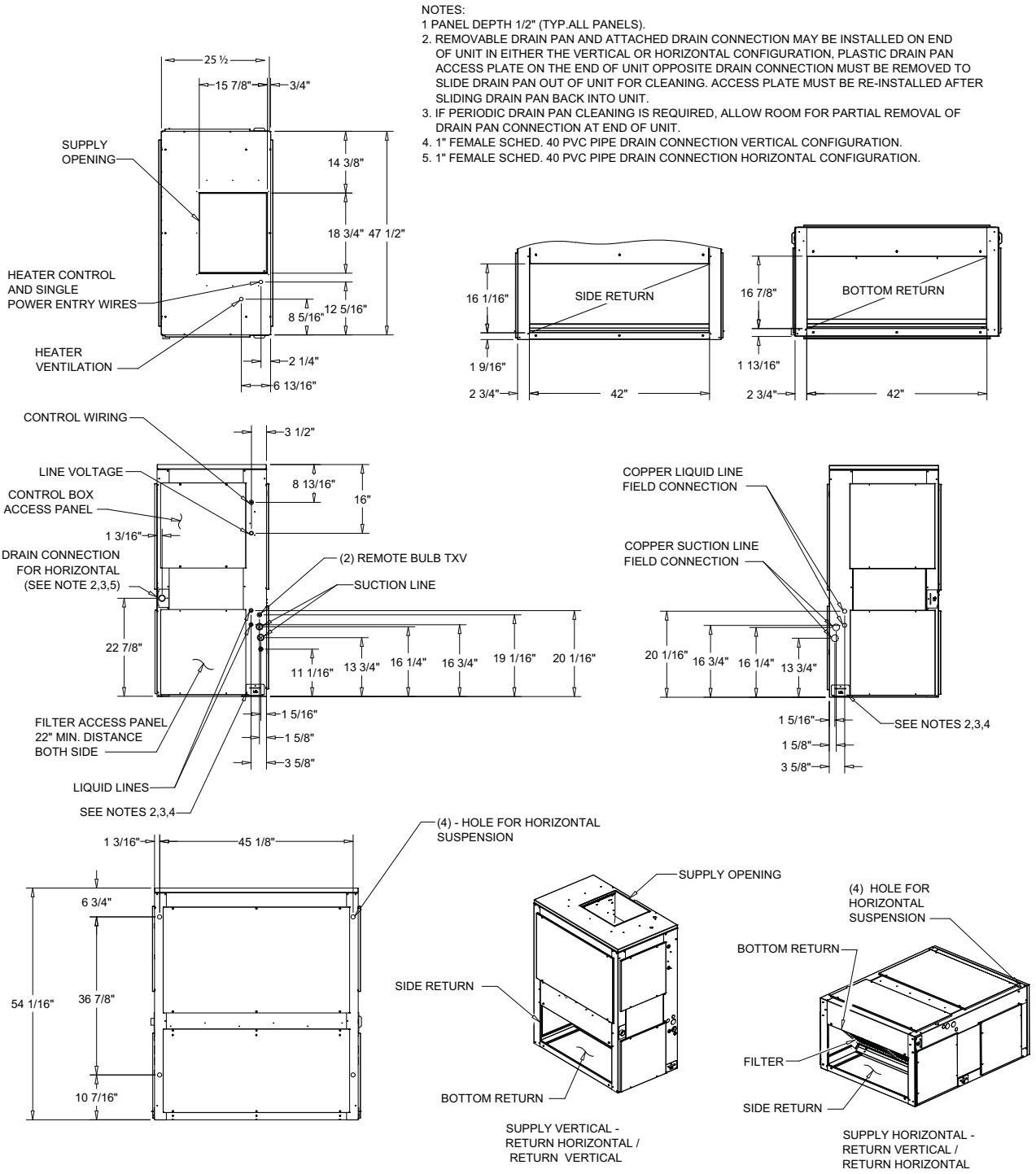
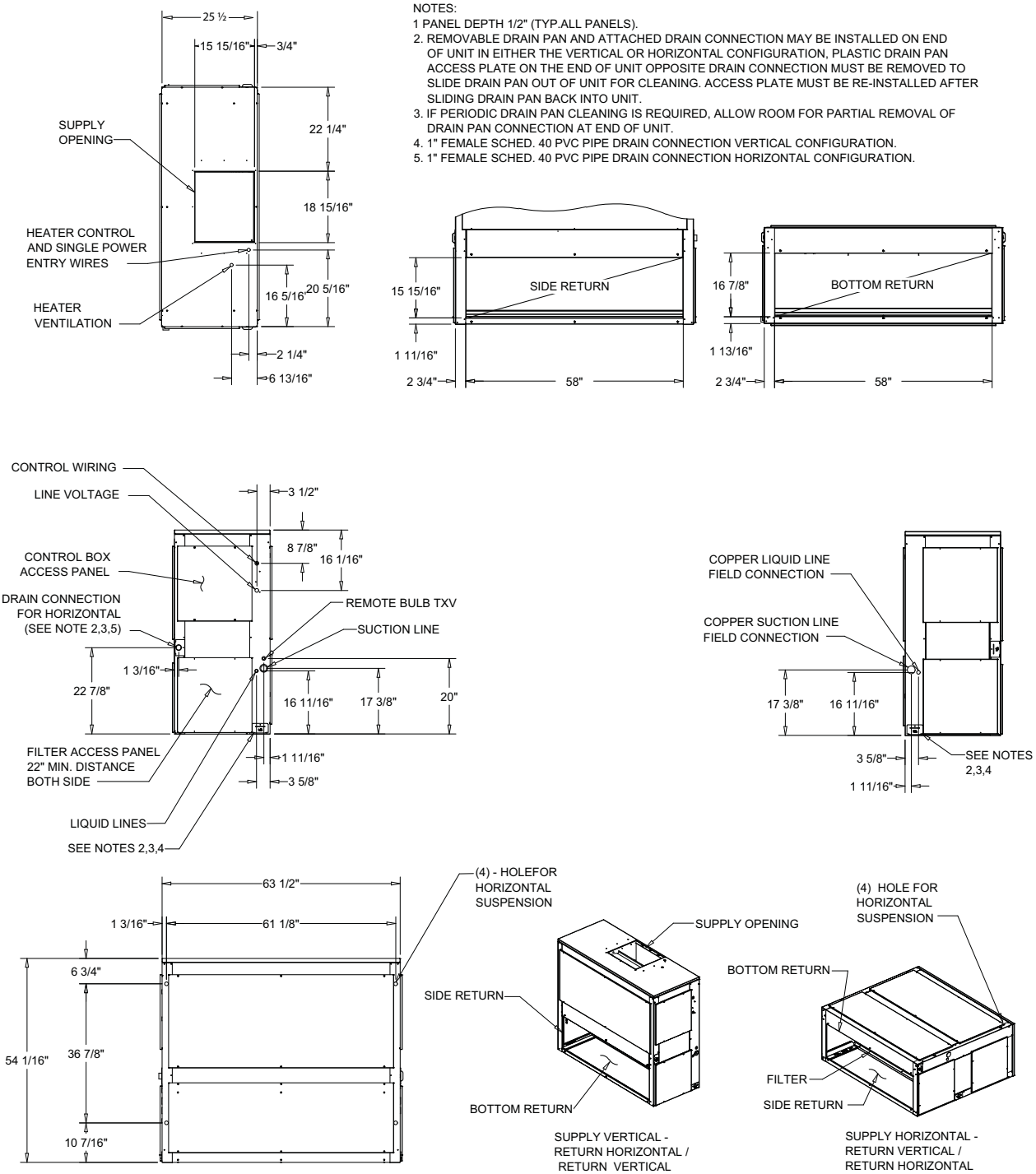


Figure 33. 10 Ton Air Handler, Single Circuit



Dimensional Data

Figure 34. 10 Ton Air Handler, Dual Circuit

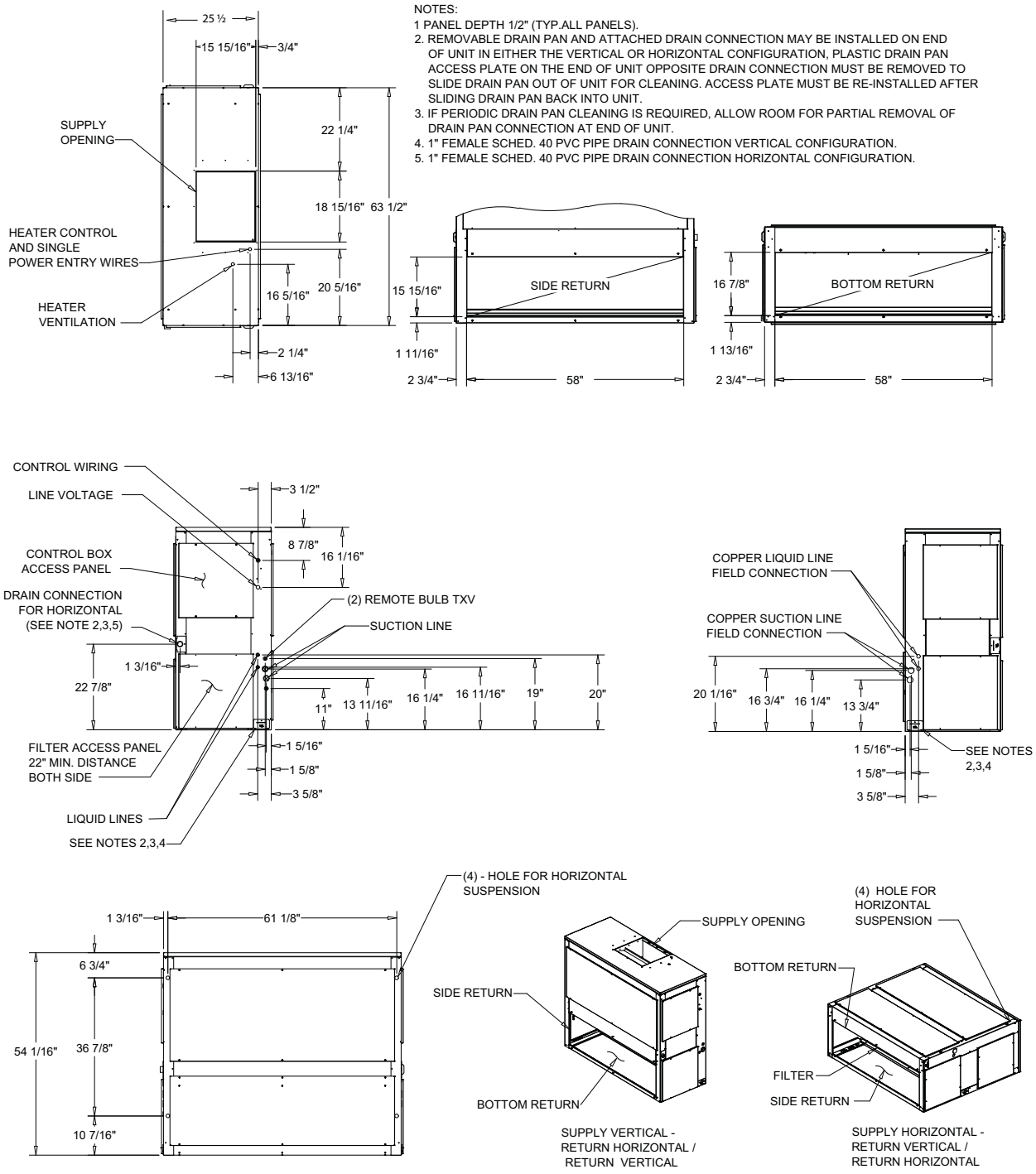
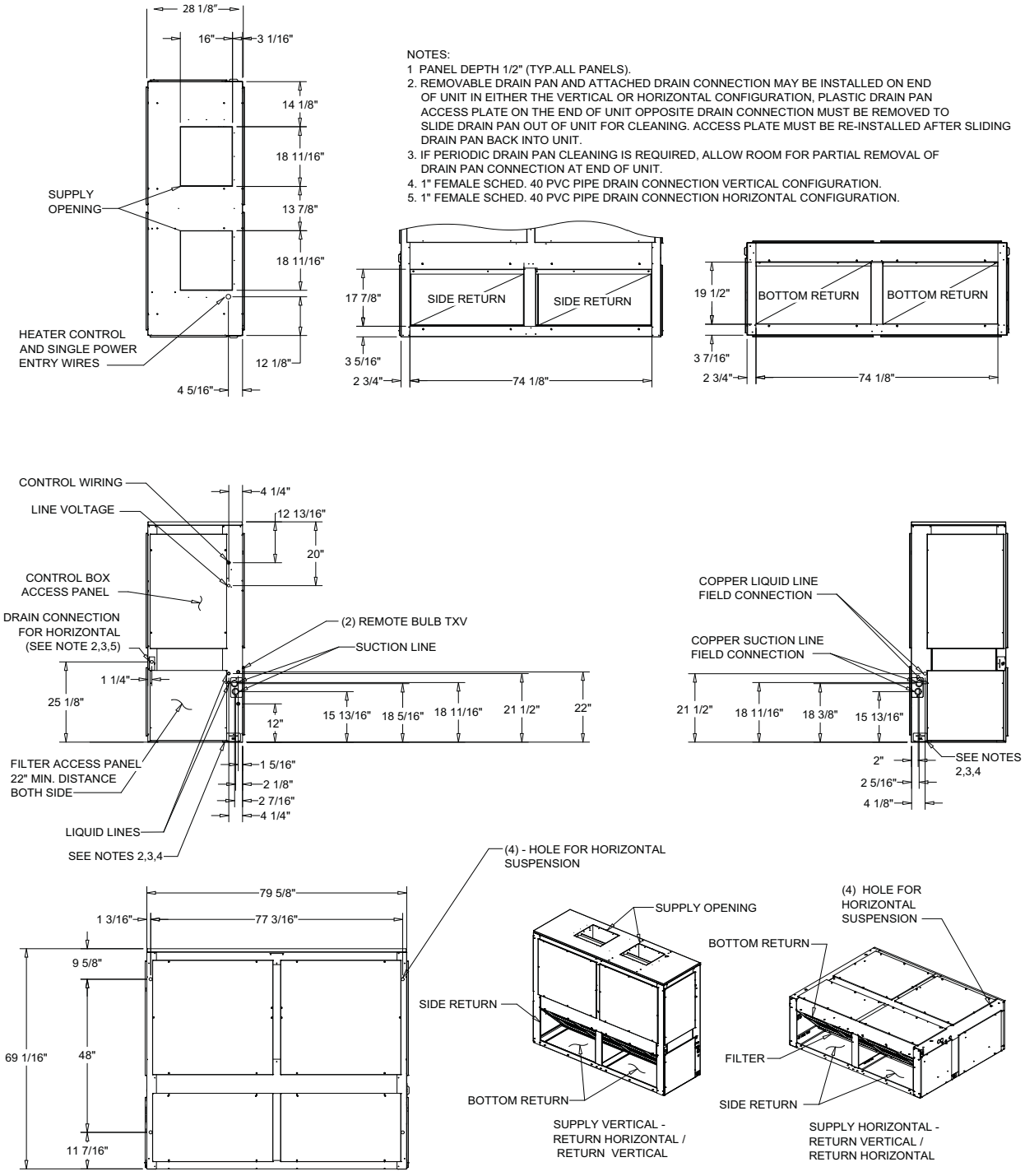


Figure 35. 12½ -15 Ton Air Handler, Dual Circuit



Dimensional Data

Figure 36. 20 Ton Air Handler, Dual Circuit

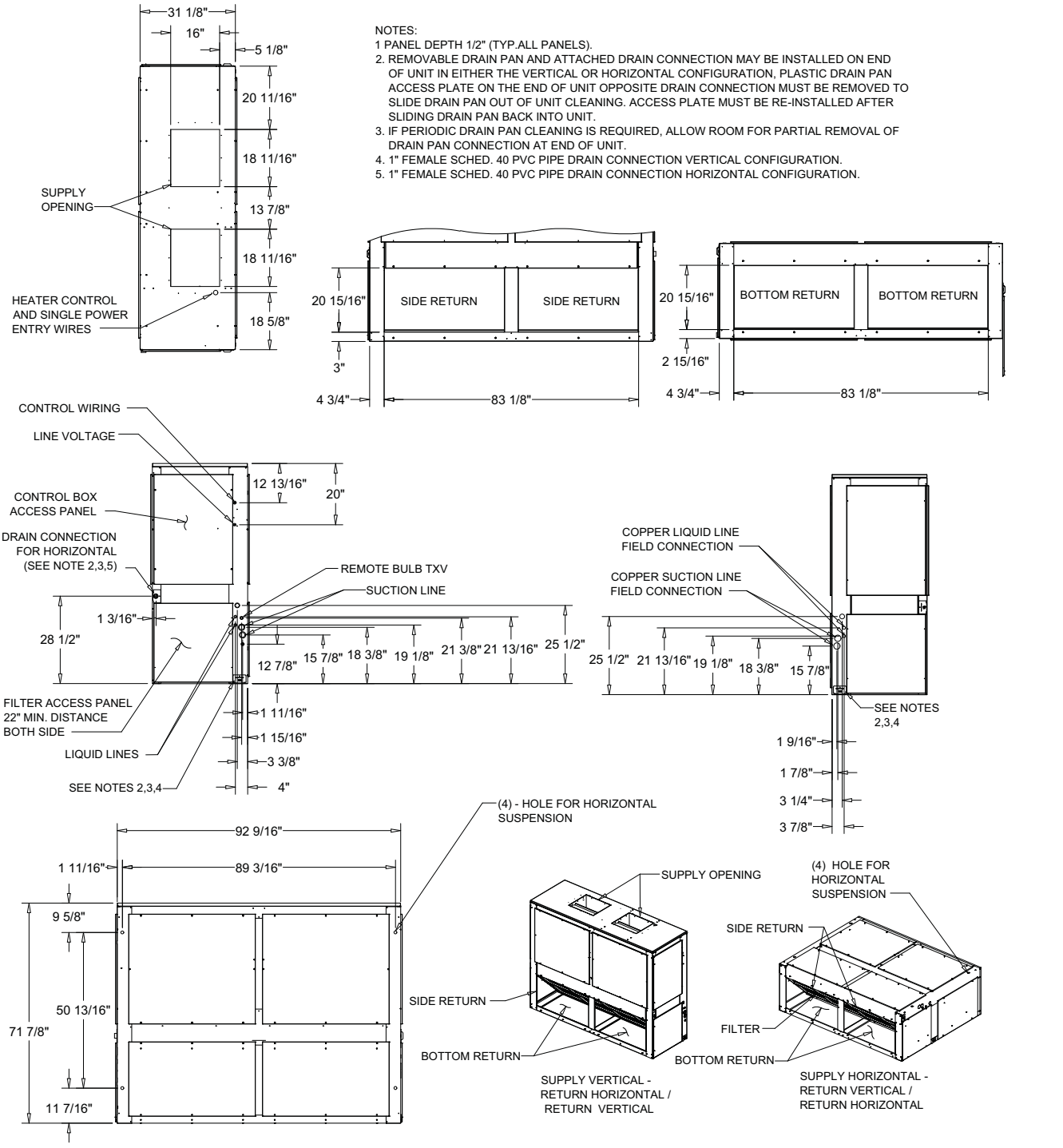


Figure 37. 5-20 Tons Rubber Isolator Accessory Dimensions

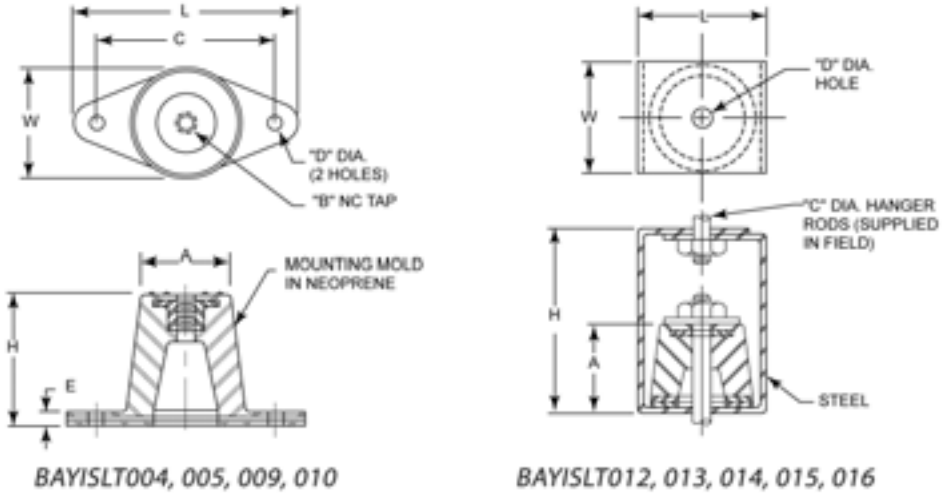


Table 58. Rubber Isolator Dimensions — in.

Model No.	L	W	H	A	B	C	D	E
BAYISLT004	3-1/8	1-3/4	1-1/4	1-1/4	3/8	2-3/8	3/8	1/4
BAYISLT005 BAYISLT009 BAYISLT010	3-7/8	2-3/8	1-3/4	1-3/4	3/8	3	3/8	1/4
BAYISLT013 BAYISLT014 BAYISLT015[a]	2-1/4	2	3	1-3/8	3/4	3/8	1/2	—
BAYISLT012 BAYISLT015[a] BAYISLT016	3	2-1/4	4-1/2	1-7/8	1/4	5/8	3/4	—

(a) BAYISLT015 contains quantity 2 of the 2 1/4 x 2 x 3 isolators and quantity 3 of the 3 x 2 1/4 x 4 1/2 isolators.

Figure 38. 5-20 Tons Spring Isolator Accessory Dimensions — in inches (mm)

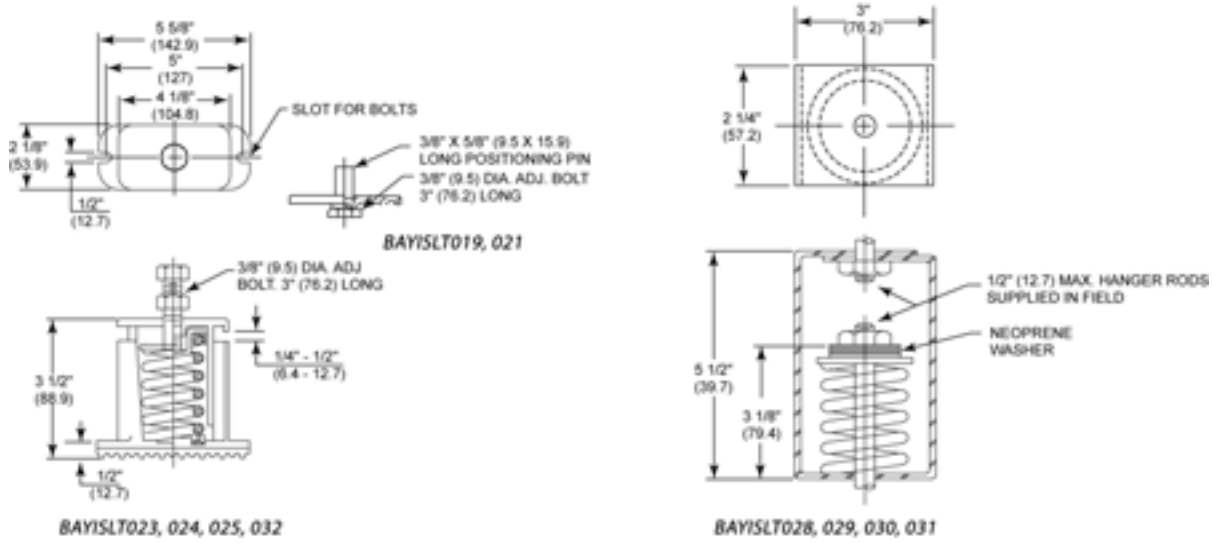


Figure 39. Electric Heater Accessory for 10 Ton and Under Air Handlers. All dimensions are in inches.

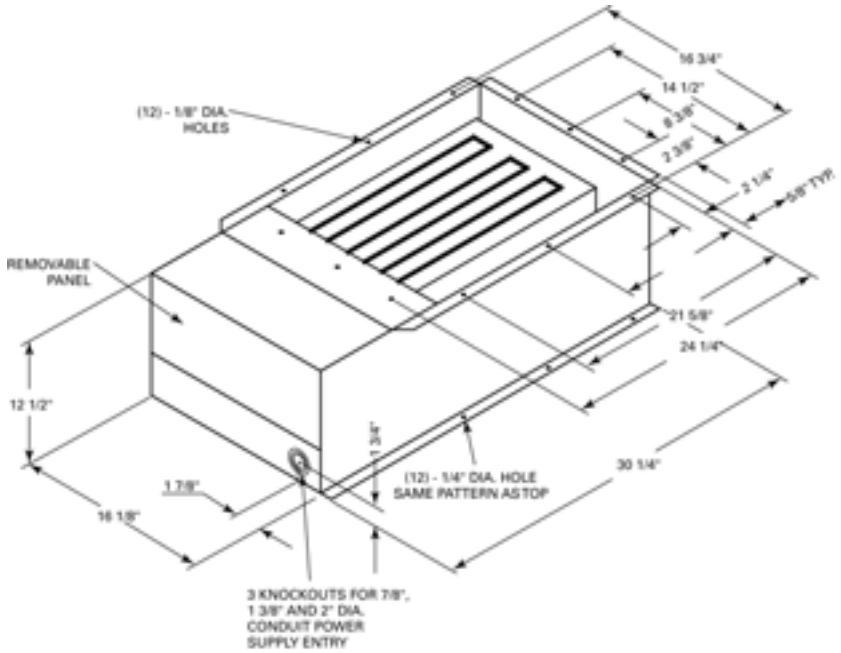


Figure 40. Electric Heater Accessory for over 10 Ton Air Handlers. All dimensions are in inches.

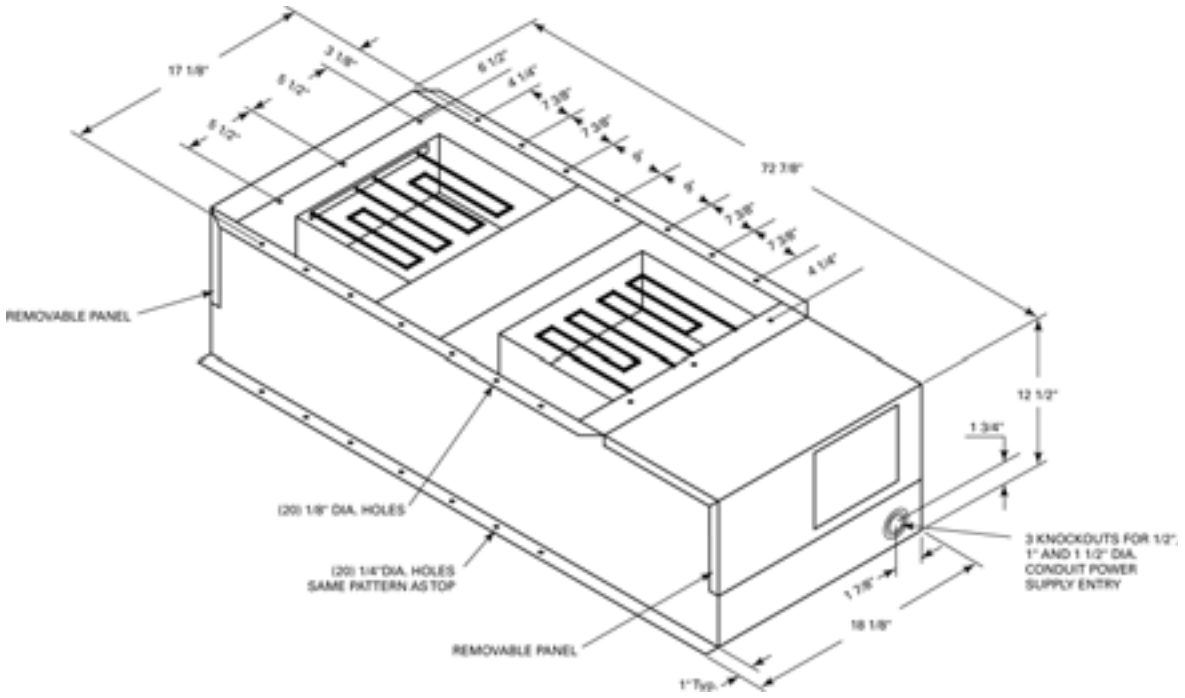


Figure 41. Hot Water Coil Accessory. All dimensions are in inches (millimeters).

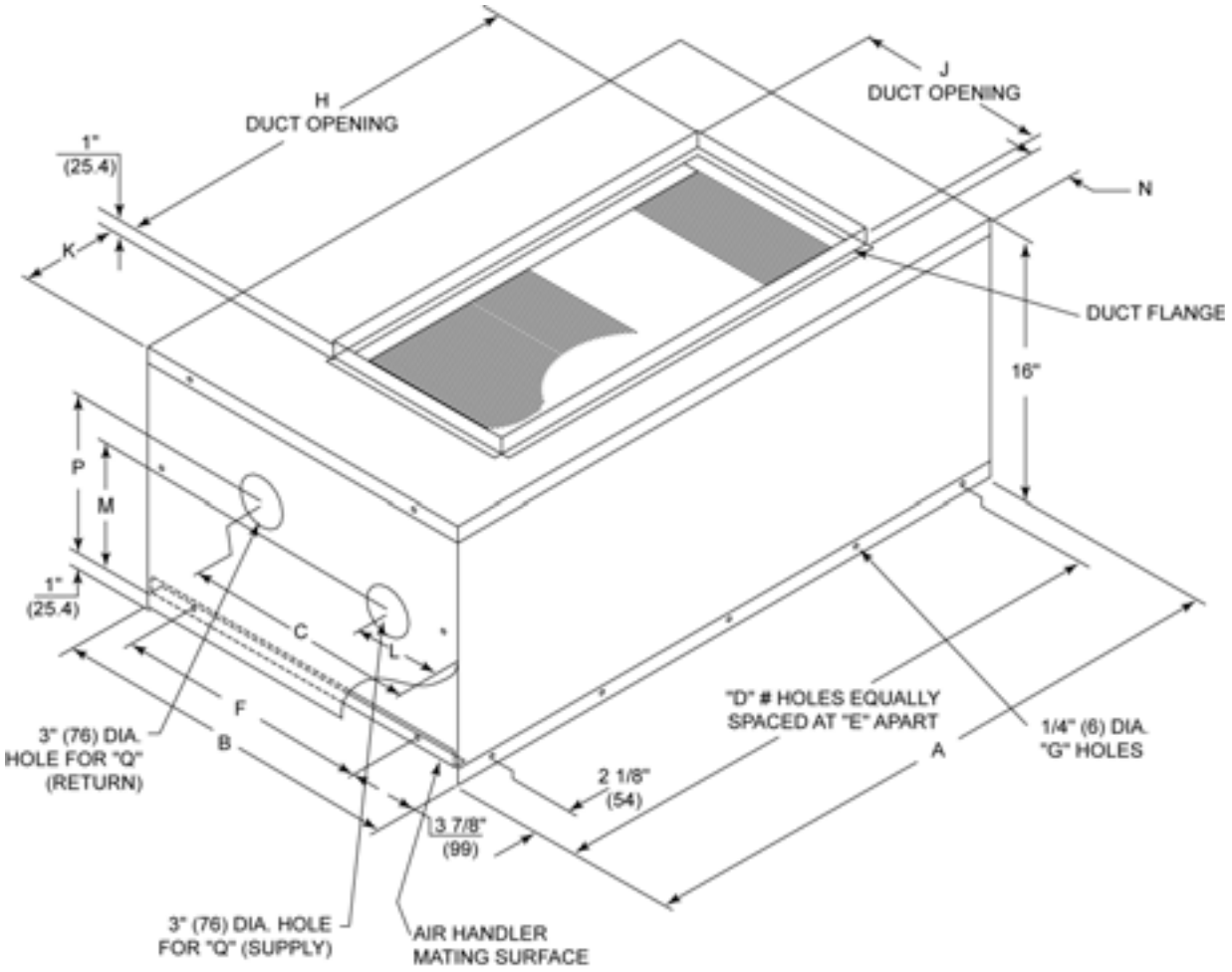


Table 59. Hot Water Coil Dimensions in.

Tons	Model No.	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q[a]
5	BAYWATR017	38	22 5/8	13 11/32	5	9	14	14	26	12	6	4 11/32	8 1/4	2 7/8	10 1/2	2 NPT
7½	BAYWATR018	47 5/8	25 5/8	15 19/32	5	10 7/8	17 1/8	14	30	18	8 7/8	8 3/32	10 3/8	2 7/8	7 7/8	2 1/2 NPTI
10	BAYWATR019	63 5/8	25 5/8	15 19/32	6	11 7/8	17 1/8	16	36	18	13 7/8	8 3/32	10 3/8	2 7/8	7 7/8	2 1/2 NPTI
12½	BAYWATR020	79 5/8	29	14 7/16	6	15 1/8	19 3/4	16	51	18	14 1/4	6 15/16	9 1/2	1 7/8	7	2 1/2 NPTI
15	BAYWATR020	79 5/8	29	14 7/16	6	15 1/8	19 3/4	16	51	18	14 1/4	6 15/16	9 1/2	1 7/8	7	2 1/2 NPTI
20	BAYWATR021	92 5/8	31 1/8	16 3/8	7	14 3/4	22 1/2	18	64	18	14 1/4	8 7/8	9 1/2	3 3/4	7	2 1/2 NPTI

(a) Note internal vs. external pipe threads

Dimensional Data

Figure 42. Steam Coil Accessory. All dimensions are in inches.

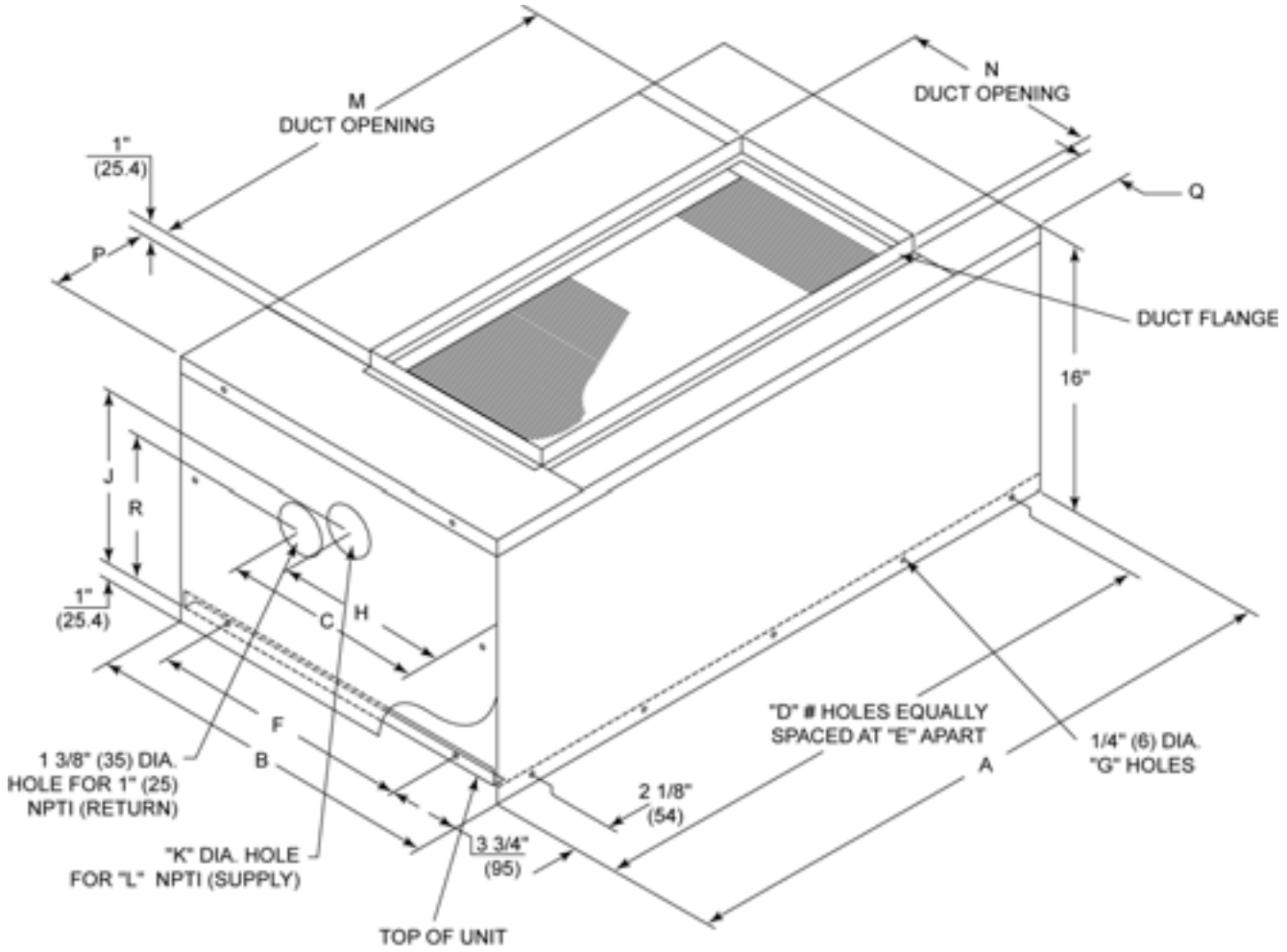


Table 60. Air Handler Dimensions in.

Tons	Model No.	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R
5	BAYWATR012	38	22 5/8	13 3/4	5	9	14 1/16	14	10 3/8	11 3/8	2	1 1/2	26	12	6	2 7/8	9 3/4
7½	BAYWATR013	47 5/8	25 11/16	19 3/4	5	10 7/8	17 1/8	14	13 3/8	11 3/8	2 1/2	2	30	18	8 7/8	2 7/8	9 3/4
10	BAYWATR014	63 5/8	25 11/16	19 3/4	6	11 7/8	17 1/8	16	13 3/8	11 1/8	2 1/2	2	36	18	13 7/8	2 7/8	9 3/4
12½	BAYWATR015	79 5/8	29	24 7/8	6	15	19 3/4	16	18 1/2	11 1/8	2 1/2	2	51	18	14 1/8	1 7/8	9 3/4
15	BAYWATR015	79 5/8	29	24 7/8	6	15	19 3/4	16	18 1/2	11 1/8	2 1/2	2	51	18	14 1/8	1 7/8	9 3/4
20	BAYWATR016	92 5/8	31 1/8	25 7/8	7	14 3/4	22 1/2	18	19 1/2	12	2 1/2	2	64	18	14 1/8	3 3/4	10 7/8

Figure 43. Discharge Plenum and Grille Accessory

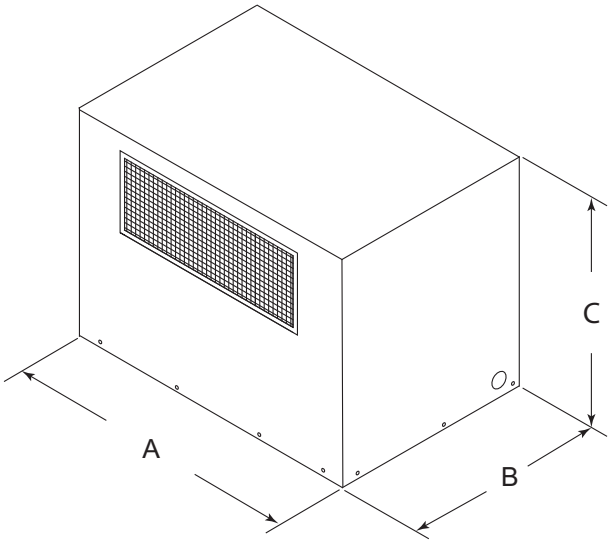


Table 61. Discharge Plenum and Grille Dimensions — in. — No Heat

Tons	Model No.	A	B	C
5	BAYPLNM015	37 15/16	21 15/16	28
7½	BAYPLNM016	47 1/2	25	28
10	BAYPLNM017	63 1/2	25	28

Table 62. Hydronic Discharge Plenum and Grille Dimensions in.

Tons	Model No.	A	B	C
5	BAYPLNM020	37 7/8	21 7/8	14 3/4
7½	BAYPLNM021	47 1/2	25	14 3/4
10	BAYPLNM022	63 1/2	25	14 3/4
12½	BAYPLNM018[(a)]	79 1/2	27 11/16	22
15	BAYPLNM018[(a)]	79 1/2	27 11/16	22
20	BAYPLNM019[(a)]	92 1/2	30 7/16	24

(a) For use with hydronic heat or no heat.

Figure 44. Discharge Plenum and Grille Accessory

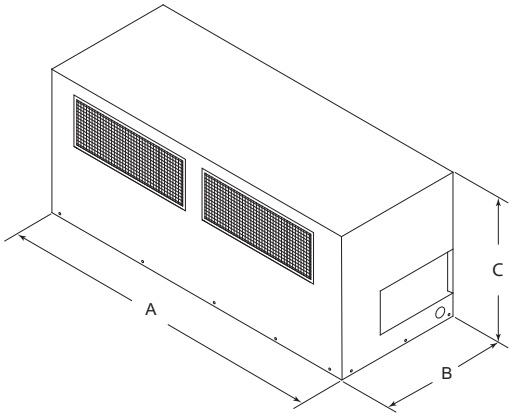


Table 63. Discharge Plenum and Grille Dimensions (in.). For use with Electric Heat.

Tons	Model No.	A	B	C
5	BAYPLNM030	37 15/16	22 7/8	29
7½	BAYPLNM031	47 1/2	25 7/8	29
10	BAYPLNM032	63 1/2	25 7/8	29
12½	BAYPLNM033	79 1/2	29 3/8	35
15	BAYPLNM033	79 1/2	29 3/8	35
20	BAYPLNM034	92 1/2	31 3/8	35

Figure 45. Subbase Accessory

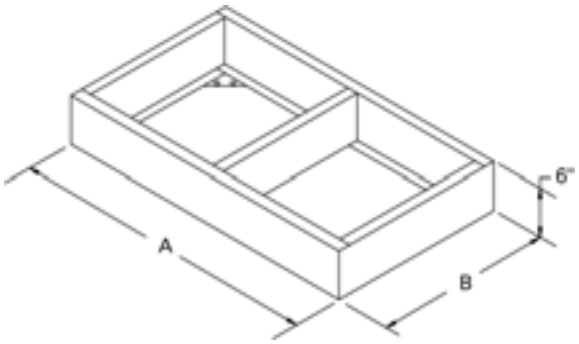


Table 64. Subbase Dimensions (in.)

Tons	Model No.	A	B
5	BAYBASE009	38	22.63
7½	BAYBASE010	47 1/2	25.51
10	BAYBASE011	63 1/2	25.52
12½	BAYBASE012	79 1/2	29.04
15	BAYBASE012	79 1/2	29.04
20	BAYBASE013	92 1/2	31.14

Weights

Table 65. TTA Unit and Corner Weights — lbs (60 Hz)

Tons	Model No.	Shipping Max (lbs)	Net Max (lbs)	Corner Weights			
				1	2	3	4
6	TTA073D	365	300	85	90	44	81
7½	TTA090D	363	298	84	89	44	81
10	TTA120D	467	395	133	103	70	89
	TTA120E	510	438	137	127	88	86
	TTA120F	509	438	129	140	83	86
12½	TTA150E	543	468	130	151	79	108
15	TTA180E	850	723	207	204	151	161
	TTA180F	852	725	196	208	153	168
20	TTA240E	970	837	262	240	164	171
	TTA240F	966	835	257	249	153	176

Figure 46. TTA073, 090, 120, 150

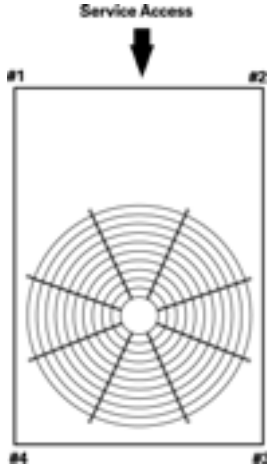


Figure 47. TTA180, 240

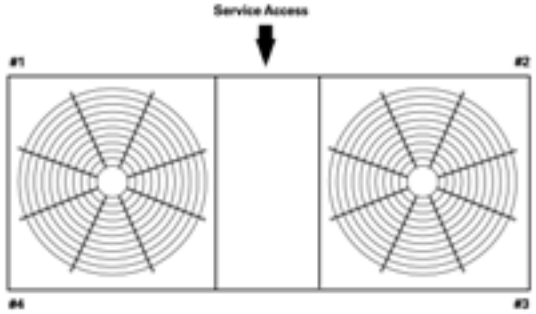


Table 66. TWE Unit and Corner Weights - lbs (60 Hz)

Tons	Model No.	Shipping Max (kg)	Net Max (kg)	Corner Weights - Vertical				Corner Weights - Horizontal			
				1	2	3	4	A	B	C	D
5	TWE061D/E	263	232	55	71	51	55	54	67	50	61
7½	TWE090D/E	360	323	67	99	75	82	56	92	87	88
10	TWE120D/E	429	393	77	121	110	85	79	118	77	119
12½	TWE150E	730	676	168	192	181	135	196	164	145	171
15	TWE180E	729	675	167	192	181	135	196	163	145	171
20	TWE240E	891	818	258	168	161	231	256	181	146	235

Weights

Figure 48. Vertical - TWE061, 090, 120

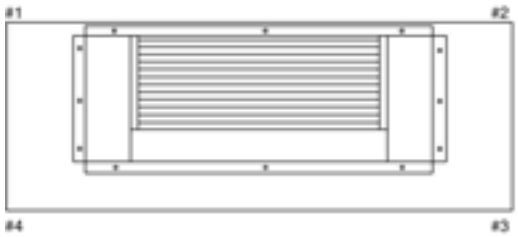


Figure 49. Vertical - TWE150, 180, 240

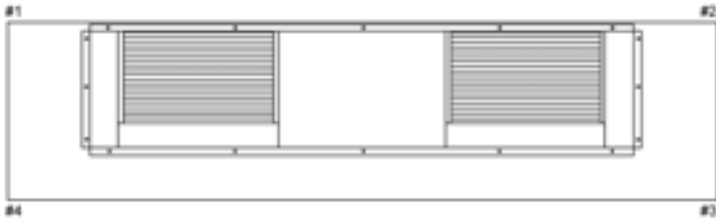


Figure 50. Horizontal - TWE061, 090, 120

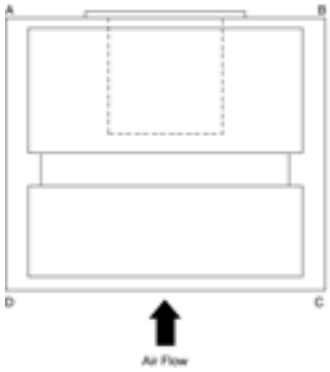


Figure 51. Horizontal - TWE150, 180, 240

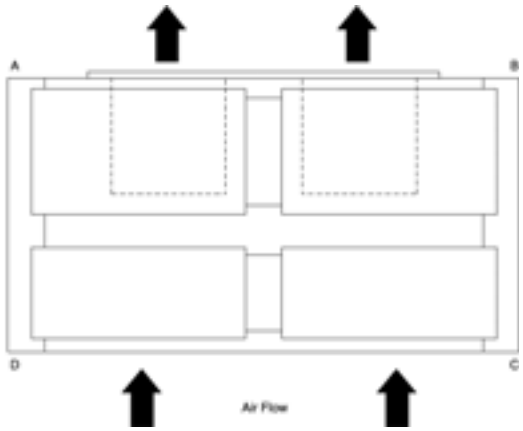


Table 67. Accessory Weights (net lbs.) - 60 Hz'

Unit Used With Tons	Hot Water Coil	Steam Coil	Discharge Plenum and Grille[a]	Discharge Plenum and Grille[b]	Discharge Plenum and Grille[c]	Return Air Grille	Electric Heat Min/Max	Subbase	Oversized Motor	RIS Isolator Floor Mount
5	86	94	63	58	115	3	32/43	14.4	31	2
7½	116	131	78	73	160	5	27/45	19.4	48	2
10	165	148	97	92	195	7	27/45	23.5	50	2
12½	211	234	—	230	235	10	79/100	28.4	80	2
15	211	234	—	230	235	10	79/100	28.4	80	2
20	242	261	—	145	265	12	79/100	31.7	88	2

Continued

Unit Used With Tons	RIS Isolator Suspended Mount	Steel Spring Isolator Floor Mount	Steel Spring Isolator Suspended Mount
5	9	12	6
7½	6	12	6
10	7	12	6
12½	7	12	6
15	7	12	6
20	9	12	6

(a) For use with Hydronic Heat.
(b) For use when no heat is supplied.
(c) For use with electric heat.

Table 68. Accessory Weights (60Hz)

Unit Model #	Control Transformer	Hail Guard	Sensors	Modulating Low Ambient	On/Off Low Ambient
TTA073	—	20	1	23	2
TTA090	4	20	1	23	2
TTA120	4	27	1	23	2
TTA150	—	30	1	23	2
TTA180	—	53	1	23 (req. qty 2)	1 (req. qty 2)
TTA240	—	53	1	42 (req. qty 2)	1 (req. qty. 2)

Mechanical Specifications

TTA Condensing Units

General

- Weatherproofed Steel Mounting/Lifting Rails
- Hermetic Scroll Compressors
- Plate Fin Condenser Coils
- Fans and Motors
- Standard Operating Range 50-125F (Min. 0°F with Low Ambient Accy)
- Nitrogen Holding Charge
- Certified and Rated in Accordance with AHRI and DOE Standards
- Certified to UL 1995

Casing

- Zinc Coated, Heavy Gauge, Galvanized Steel
- Weather Resistant Baked Enamel Finish
- Meets 672 hr Salt Spray Test
- Removable Single Side Maintenance Access Panels
- Lifting Handles in Maintenance Access Panels
- Unit Base Provisions for Forklift and/or Crane Lifting

Refrigeration System - Single Compressor (TTA073D, TTA090D, TTA120D)

- Single Refrigeration Circuit with Integral Subcooling Circuit.
- Single Direct Drive Hermetic Scroll Compressor
- Suction Gas-Cooled Motor w/ ± 10% Voltage Utilization Range of Unit Nameplate Voltage
- Crankcase Heater
- Internal Temperature and Current Sensitive Motor Overloads
- No Compressor Suction and/or Discharge Valves (Reduced Vibration/Sound)
- Factory Installed Liquid Line Filter Drier
- Phase Loss/Reverse Rotation Monitor
- Liquid Line Service Valve (with gauge port)
- Suction Line Service Valve (with gauge port)
- External High Pressure Cutout Device
- External Low Pressure Cutout Device
- Evaporator Defrost Control
- Loss of Charge Protection (Discharge Temperature Limit)

Refrigeration System - Dual Compressor (TTA120E, TTA150E, TTA180E, TTA240E)

- Two (2) Separate and Independent Refrigerant Circuits
- Each Refrigeration Circuit Equipped with Integral Subcooling Circuit.
- Two (2) Direct Drive Hermetic Scroll Compressor
- Suction Gas-Cooled Motors w/ ± 10% Voltage Utilization Range of Unit Nameplate Voltage
- Crankcase Heaters

- Internal Temperature and Current Sensitive Motor Overloads
- Factory Installed Liquid Line Filter Driers
- Phase Loss/Reverse Rotation Monitor
- Liquid Line Service Valves (with gauge port)
- Suction Line Service Valves (with gauge port)
- No Compressor Suction and/or Discharge Valves (Reduced Vibration/Sound)
- External High Pressure Cutout Devices
- External Low Pressure Cutout Devices
- Evaporator Defrost Control
- Loss of Charge Protection (Discharge Temperature Limit)

Refrigeration System - Dual Manifolded Compressors (TTA120F, TTA180F, TTA240F)

- Single Refrigerant Circuit with Integral Subcooling Circuit.
- Two (2) Direct Drive Hermetic Scroll Compressor
- Suction Gas-Cooled Motors w/ ± 10% Voltage Utilization Range of Unit Nameplate Voltage
- Crankcase Heaters
- Internal Temperature and Current Sensitive Motor Overloads
- No Compressor Suction and/or Discharge Valves (Reduced Vibration/Sound)
- Factory Installed Liquid Line Filter Drier
- Phase Loss/Reverse Rotation Monitor
- Liquid Line Service Valve (with gauge port)
- Suction Line Service Valve (with gauge port)
- External High Pressure Cutout Devices
- External Low Pressure Cutout Devices
- Evaporator Defrost Control
- Loss of Charge Protection (Discharge Line Thermostats)

Condenser Coil

- 3/8″ Internally Enhanced Copper Tube Mechanically Bonded to Lanced Aluminum Plate Fins
- Factory Pressure and Leak Tested to 660 psig.
- Perforated Steel Hail Guards Available (Factory Installed Option or Field Installed Accessory)

Condenser Fan

- 26" or 28" Propeller Fan(s)
- Direct Drive
- Statically and Dynamically Balanced

Condenser Motor(s)

- Permanently Lubricated Totally Enclosed or Open Construction
- Built-In Current and Thermal Overloads
- Ball or Sleeve Bearing Type

Controls

- Choice of Electro-mechanical or Microprocessor

- Completely Internally Wired
- Numbered and Colored Wires
- Contactor Pressure Lugs or Terminal Block
- Unit External Mounting Location for Disconnect Device
- Single Point Power Entry

Factory Installed Options

Hail Guards

- Condenser Coil Protection from Hail, Vandals, Etc.
- Perforated, Painted Galvanized Steel
- Factory or Field Installed

Black Epoxy Coated Condenser Coil

- Thermoset Vinyl Coating
- Bonded to Aluminum Fin Stock (Prior to Fin-Stamping Process)
- Economical Protectant in Mildly Corrosive Environments

Lon Talk® Communication Interface

- Factory or Field Installed
- Communications Board
- Allows Unit Communication as a Tracer™ LCI-R Device
- Allows Unit Communication with Generic LonTalk Network Building Automation Controls

Controls: Electro-Mechanical

- 24V Control Circuit
- Control Transformer
- Thermostat Compatible
- Anti-Short Cycle Timer

Controls: Microprocessor

- Centralized Processor
- Indoor and Outdoor Temperature Sensors Drive Algorithms Making Decisions for All Heating, Cooling, and Ventilation
- Integrated Anti-Short Cycle Timer
- Integrated Time Delay Between Compressors

Field Installed Accessories

Low Ambient (Fan ON/OFF)

- Provides Unit Cooling Operation to Outdoor Ambient of 0°F
- Low Cost Solution
- Liquid Line Temperature Controls Condenser Fan Operation
- 1 Kit Per Condenser Fan Required

Low Ambient (Modulating)

- Provides Unit Cooling Operation to Outdoor Ambient of 0°F
- “Wave-Chopper”

- Discharge Line Pressure Controls Condenser Fan Operation
- 1 Kit Per Condenser Fan Required

Vibration Isolators

- Neoprene-In-Shear or Spring Flex Choice
- Reduce Vibration Transmission to Building Structures, Equipment, and Adjacent Spaces
- Reduce Noise Transmission to Building Structures, Equipment, and Adjacent Spaces

Hot Gas Bypass

- Provides Capacity Modulation Solution

Time Delay Relay

- Electro-Mechanical Units Only
- Prevent Simultaneous Starting of Both Compressors in Dual Compressor Units
- 24V
- 4 Minute Timing Period

Zone Sensor

- Interfaces with Microprocessor Units
- Manual or Automatic Programmable
- System Malfunction Lights
- Remote Sensor Options

Thermostat

- 1H/1C Available
- 2H/1C Available
- Manual or Automatic Changeover Available
- Automatic Programmable Electronic with Night Setback Available

Lon Talk® Communication Interface

- Factory or Field Installed
- Communications Board
- Allows Unit Communication as a Tracer™ LCI-R Device
- Allows Unit Communication with Generic LonTalk Network Building Automation Controls

TWE Air Handlers

General

- Completely Factory Assembled
- Convertible for Horizontal or Vertical Configuration
- Convertible for Cooling Only or Heat Pump Application
- Convertible for Left or Right External Connections (Refrigerant and/or Electrical)
- Convertible for Front or Bottom Air Return
- Nitrogen Holding Charge
- Certified to UL 1995 for Indoor Blower Coil Units

Casing

- Zinc Coated, Heavy Gauge, Galvanized Steel
- Weather Resistant Baked Enamel Finish
- Access Panels with Captive Screws
- Completely Insulated with Foil Faced, Cleanable, Fire Retardant, Permanent, Odorless Glass Fiber Material
- Captured or Sealed Insulation Edges
- Electrical Connection Bushings or Plugs
- Refrigerant Connection Bushings or Plugs
- Withstand Elevated Internal Static Pressure

Refrigeration System

- Single or Dual Circuit
- Distributor(s)
- Thermal Expansion Valves (TXVs)

Evaporator Coil

- 3/8” Internally Enhanced Copper Tube Mechanically Bonded to Lanced Aluminum Plate Fins
- Factory Pressure and Leak Tested to 449 psig.
- Draw-Through Airflow
- Dual Circuits Are Interlaced/Intertwined
- Double Sloped, Removable, Cleanable, Composite Drain Pan
- Four Drain Pan Positions

Indoor Fan

- Double Inlet, Double Width, Forward Curved, Centrifugal Type Fan
- Dual Fans On 12.5-20T Air Handlers
- Adjustable Belt Drive
- Permanently Lubricated Bearings

Indoor Motor

- Adjustable Motor Sheaves
- Thermal Overload Protection
- Permanently Lubricated Bearings
- Meet Energy Policy of 1992 (EPACT)
- Optional Over Sized Motors for High Static Applications

Controls

- Completely Internally Wired
- Numbered and Colored Wires
- Magnetic Indoor Fan Contactor
- Low Voltage Terminal Strip
- Single Point Power Entry
- Evaporator Defrost Control

Filters

- Access From Side Coil Panels
- Filters Slide on Rack
- One Inch (1"), Throw-Away Filters on 5-10 Ton Units
- Filter Rack Convertible to Two Inch (2") Capability on 5-10 Ton Units
- Two Inch (2"), Throw-Away Filters on 12.5-20 Ton Units

Field Installed Accessories

Electric Heaters

- Heavy Duty Nickel Chromium Elements
- ETL Approved
- Installs Directly On Fan Discharge
- One or Two Stage Control (Dependent Upon Capacity)
- Single Point Power Entry
- Terminal Strip Connections
- 460V Heaters
  - Internally Wye Connected
  - Automatic Line Break High Limit Controls
- 230V Heaters
  - Internally Delta Connected
  - Automatic Reset of High Limit Controls Through Pilot Duty with Secondary Backup Fuse Links

Hydronic Heat Coils

- One Row Steam
- Two Row Hot Water
- Installs Directly On Fan Discharge
- Heavy Gauge Sheet Metal Casing Matches Air Handler
- Convertible for Horizontal or Vertical Configurations

Discharge Plenums and Grilles

- Vertical, Free Discharge Applications
- Heavy Gauge Sheet Metal Casing Matches Air Handler
- Satin Finished, 4-Way Adjustable Louver Grilles

Return Air Grilles

- Vertical, Free Discharge Applications
- Satin Finished, Non-Adjustable Louver Grilles
- Replaces Front Lower Access Panel

Mounting Sub-Base

- Vertical Floor Mount Configuration Requirement
- Heavy Gauge Sheet Metal Casing Matches Air Handler
- Provides Additional Clearance for Condensate Drain Trapping
- Required When Isolators Are Used

Vibration Isolators

- Neoprene-In-Shear or Spring Flex Choice
- Floor or Suspended Applications
- Reduce Vibration Transmission to Building Structures, Equipment, and Adjacent Spaces
- Reduce Noise Transmission to Building Structures, Equipment, and Adjacent Spaces

Over Size Motors

- High Static Applications
- Motor, Sheaves, Belt Included

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For more information, contact your local Trane office or e-mail us at comfort@trane.com

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