

# Installer's Guide

## Air Conditioner/Heat Pump 4TTZ0/4TWZ0 with ComfortLink™ II and Charge Assist™

**ALL phases of this installation must comply with NATIONAL, STATE AND LOCAL CODES**

**IMPORTANT**—This Document is **customer property** and is to remain with this unit. Please return to service information pack upon completion of work.

These instructions and illustrations do not cover all variations in systems nor provide for every possible contingency to be met in connection with installation. All phases of this installation must comply with NATIONAL, STATE AND LOCAL CODES. Should further information be desired or should particular problems arise which are not covered sufficiently for the purchaser's purposes, the matter should be referred to your installing dealer or local distributor.

### A. GENERAL

#### **WARNING**

This information is intended for use by individuals possessing adequate backgrounds of electrical and mechanical experience. Any attempt to repair a central air conditioning product may result in personal injury and or property damage. The manufacturer or seller cannot be responsible for the interpretation of this information, nor can it assume any liability in connection with its use.

#### **NOTICE:**

*Trane has always recommended installing Trane approved matched indoor and outdoor systems.*

*The benefits of installing approved matched systems are maximum efficiency, optimum performance and best overall system reliability.*

#### **WARNING**

These units use R-410A refrigerant which operates at 50 to 70% higher pressures than R-22. Use only R-410A approved service equipment. Refrigerant cylinders are painted a "Rose" color to indicate the type of refrigerant and may contain a "dip" tube to allow for charging of liquid refrigerant into the system. All R-410A systems use a POE/AB oil that readily absorbs moisture from the atmosphere. To limit this "hygroscopic" action, the system should remain sealed whenever possible. If a system has been open to the atmosphere for more than 4 hours, the compressor oil must be replaced. Never break a vacuum with air and always change the driers when opening the system for component replacement. For specific handling concerns with R-410A and POE/AB oil, reference Retrofit Bulletin TRN-APG02-EN. Check for transportation damage after unit is uncrated. Report promptly, to the carrier, any damage found to the unit.

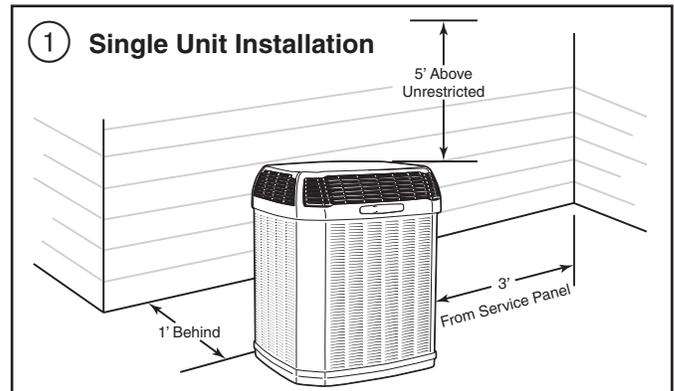
#### **CAUTION**

#### **UNIT CONTAINS R-410A REFRIGERANT!**

R-410A OPERATING PRESSURE EXCEEDS THE LIMIT OF R-22. PROPER SERVICE EQUIPMENT IS REQUIRED. FAILURE TO USE PROPER SERVICE TOOLS MAY RESULT IN EQUIPMENT DAMAGE OR PERSONAL INJURY.

#### **SERVICE**

USE ONLY R-410A REFRIGERANT AND APPROVED POE/AB COMPRESSOR OIL.



Check for transportation damage after unit is uncrated. Report promptly, to the carrier, any damage found to the unit.

To determine the electrical power requirements of the unit, refer to the nameplate of the unit. The electrical power available must agree with that listed on the nameplate.

### B. LOCATION AND PREPARATION OF THE UNIT

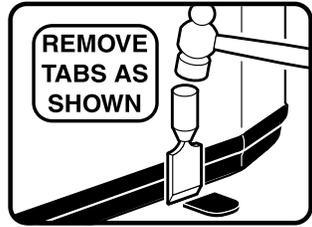
(INFORMATION APPLICABLE TO HEAT PUMPS ONLY:)

The Heat Pump has been designed and manufactured to withstand and operate in severe winter conditions. However, there are precautionary steps which should be taken at the time of installation which will help assure the efficient operation of the unit. **It is recommended that these precautions be taken for units being installed in areas where snow accumulation and prolonged below freezing temperatures occur.**

- Units should be elevated three (3) to twelve (12) inches above the pad or rooftop, depending on local weather. This additional height will allow better drainage of snow and ice (melted during defrost cycle) prior to its refreezing. This should prevent a build-up of ice around the unit which occurs when unit is not elevated. **Insure that drain holes in unit base pan are not obstructed preventing draining of defrost water.**
- If possible, avoid locations that are likely to accumulate snow drifts. If not possible, a snow drift barrier should be installed around the unit to prevent a build-up of snow on the sides of the unit and should be of sufficient distance from the unit to prevent restriction of airflow to and from the unit. Also allow for proper maintenance space. The barrier should be constructed of materials which will blend in with the building design.
- Avoid locating the unit where condensation and freezing of defrost vapor may annoy the customer. For instance, installing the unit under a bedroom, kitchen, or picture window may be annoying to the customer since condensate and fog will occur during the defrost cycle.
- Avoid locating the unit under the eaves or other overhead structures as sizeable icicles may form and the unit may be damaged by these falling icicles.

# Installer's Guide

## 2 BASEPAN TAB REMOVAL



### (INFORMATION APPLICABLE TO ALL UNITS:)

1. When removing unit from the pallet, notice the tabs on the basepan. Remove tabs by cutting with a sharp tool as shown in Figure 2 and slide unit off of pallet.
2. The unit should be set on a **level support pad** at least as large as the unit base pan, such as a concrete slab. If this is not the application used please refer to Application Guide SSC-APG005-EN.
3. The support pad must NOT be in direct contact with any structure. Unit must be positioned a minimum of 12" from any wall or surrounding shrubbery to insure adequate airflow. Clearance must be provided in front of control box (access panels) and any other side requiring service access to meet National Electrical Code. Also, the unit location must be far enough away from any structure to prevent excess roof run-off water from pouring directly on the unit. Do not locate unit(s) close to bedroom(s).
4. The top discharge area must be unrestricted for at least five (5) feet above the unit. See Figure 1.
5. When the outdoor unit is mounted on a roof, be sure the roof will support the unit's weight. Properly selected isolation is recommended to prevent transmission to the building structure.
6. The maximum length of refrigerant lines from outdoor to indoor unit should NOT exceed eighty (80) feet.
7. If outdoor unit is mounted above the air handler, maximum lift should not exceed twenty-five (25) feet (suction line). If air handler is mounted above condensing unit, maximum lift should not exceed twenty-five (25) feet (liquid line).
8. Locate and install indoor coil or air handler in accordance with instruction included with that unit.

## C. INSTALLING REFRIGERANT LINES

### ⚠ CAUTION

**If using existing refrigerant lines make certain that all joints are brazed, not soldered.**

Condensing units have provisions for braze connections.

Pressure taps are provided on the service valves of outdoor unit for compressor suction and liquid pressures.

The indoor end of the recommended refrigerant line sets may be straight or with a ninety (90) degree bend, depending upon situation requirements. This should be thoroughly checked out before ordering refrigerant line sets.

### NOTE:

**The gas line must always be insulated. Liquid lines that run through attic space must also be insulated.**

The units are factory charged with the system charge required when using fifteen (15) feet of rated connecting line. See unit nameplate.

**Final refrigerant charge adjustment is necessary.** Use Charge Assist™ or the Manual Charging procedure found in the outdoor unit Service Facts. Charge level can always be verified with the Refrigerant Charging Chart found in the Service Facts.

1. Determine the most practical way to run the lines.
2. Consider types of bends to be made and space limitations.

### NOTE:

**Large diameter tubing will be very difficult to rebend once it has been shaped.**

3. Determine the best starting point for routing the refrigerant tubing — **INSIDE OR OUTSIDE THE STRUCTURE.**
4. Provide a pull-thru hole of sufficient size to allow both liquid and gas lines.
5. Be sure the tubing is of sufficient length.
6. Uncoil the tubing — do not kink or dent.
7. Route the tubing making all required bends and properly secure the tubing before making connections.
8. To prevent a noise within the building structure due to vibration transmission from the refrigerant lines, the following precautions should be taken:
  - a. When the refrigerant lines have to be fastened to floor joists or other framing in a structure, use isolation type hangers.
  - b. Isolation hangers should also be used when refrigerant lines are run in stud spaces or enclosed ceilings.
  - c. Where the refrigerant lines run through a wall or sill, they should be insulated and isolated.
  - d. Isolate the lines from all ductwork.

## D. SERVICE VALVE OPERATION

### BRASS LIQUID LINE SERVICE VALVE

The Brass Liquid Line Service Valve is factory shipped in the seated position to hold factory charge. The pressure tap service port (when depressed) opens only to the field brazing side of the valve when the valve is in the seated position. The liquid line valve is **not** a back seating valve (see **WARNING** below).

### ⚠ WARNING

**Extreme caution should be exercised when opening the Liquid Line Service Valve. Turn valve stem counterclockwise only until the stem contacts the rolled edge. (See Figure 3). No torque is required. Failure to follow this warning will result in abrupt release of system charge and may result in personal injury and/or property damage.**

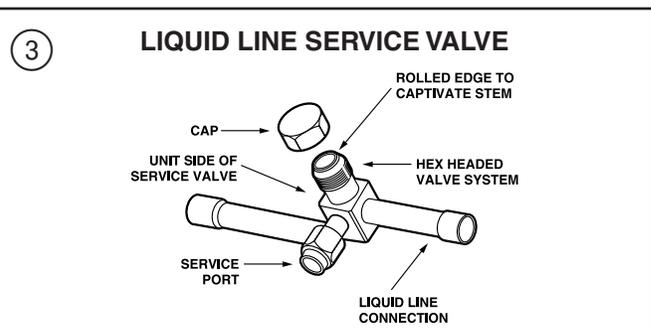
### BRASS GAS LINE BALL SERVICE VALVE

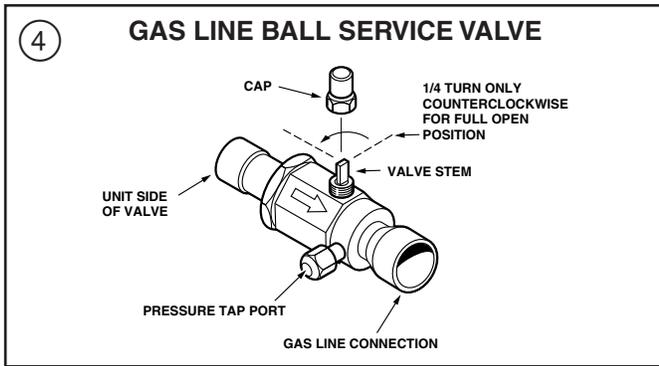
The Brass Gas Line Service Valve is shipped in the closed position to hold the factory refrigerant charge. The pressure tap service port (when depressed) opens only to the field brazing side when the valve is in the closed position.

The Gas Line Ball Service Valve is full open with a 1/4 turn. See Figure 4.

### BRAZING REFRIGERANT LINES

1. Remove lower access cover to access service valves.
2. Before brazing, remove plugs from external copper stub tubes. Clean internal and external surfaces of stub tubes prior to brazing.
3. Cut and fit tubing, minimizing the use of sharp 90° bends.
4. Insulate the entire gas line and its fittings.
5. Do **NOT** allow uninsulated liquid line to come in direct contact with bare gas line.





6. Precautions should be taken to avoid heat damage to the pressure tap valve core during brazing. It is recommended that the pressure tap port valve core be removed and a wet rag wrapped around the valve body.

**NOTE:**

Use care to make sure that no moisture enters pressure tap port, while wet rag is being used.

**NOTE:**

Precautions should be taken to avoid heat damage to basepan during brazing. It is recommended to keep the flame directly off of the basepan.

- Use a Dry Nitrogen Purge and Brazing Alloy without flux when brazing the field line to the copper factory connection. Flow dry nitrogen into either valve pressure tap port, thru the tubing and out the other port while brazing.
- Braze using accepted good brazing techniques.

**LEAK CHECK**

**IMPORTANT:**

Replace pressure tap port valve core before attaching hoses for evacuation.

After the brazing operation of refrigerant lines to both the outdoor and indoor unit is completed, the field brazed connections must be checked for leaks. Pressurize through the service valve ports, the indoor unit and field refrigerant lines with dry nitrogen to 350-400 psi. Use soap bubbles or other leak-checking methods to see that all field joints are leak-free! If not, **release pressure**; then repair!

**SYSTEM EVACUATION**

**NOTE:**

Since the outdoor unit has a refrigerant charge, the gas and liquid line valves must remain closed.

- Upon completion of leak check, evacuate the refrigerant lines and indoor coil before opening the gas and liquid line valves.
- Attach appropriate hoses from manifold gauge to gas and liquid line pressure taps.

**NOTE:**

Unnecessary switching of hoses can be avoided and complete evacuation of all lines leading to sealed system can be accomplished with manifold center hose and connecting branch hose to a cylinder of R-410A and vacuum pump.

- Attach center hose of manifold gauges to vacuum pump.
- Evacuate until the micron gauge reads no higher than 350 microns.
- Close off valve to vacuum pump and observe the micron gauge. If gauge pressure rises above 500 microns in one (1) minute, then evacuation is incomplete or system has a leak.
- If vacuum gauge does not rise above 500 microns in one (1) minute, the evacuation should be complete.
- With vacuum pump and micron gauge blanked off, open valve on R-410A cylinder and charge refrigerant lines and indoor coil with vapor to tank pressure of R-410A supply.
- Close valve on R-410A supply cylinder. Close valves on manifold gauge set and remove refrigerant charging hoses from liquid and gas pressure tap ports.

**NOTE:**

DO NOT VENT REFRIGERANT INTO THE ATMOSPHERE.

**NOTE:**

A 3/16" Allen wrench is required to open liquid line service valve. A 1/4" Open End or Adjustable wrench is required to open gas line valve. A 3/4" Open End wrench is required to take off the valve stem cap.

- The liquid line shut-off valve can now be opened. Remove shut-off valve cap. Fully insert hex wrench into the stem and backout counterclockwise until valve stem just touches rolled edge (approximately five [5] turns) observing **WARNING** statement on page 2. See Figure 3.
- Replace liquid service pressure tap port cap and valve stem cap. These caps **MUST BE REPLACED** to prevent leaks. Replace valve stem and pressure tap cap finger tight, then tighten an additional 1/6 turn.
- The gas valve can now be opened. For a ball type gas valve, open the gas valve by removing the shut-off valve cap and turning the valve stem 1/4 turn counterclockwise, using 1/4" Open End or Adjustable wrench. See Figure 4 and refer to Step 8 prior to opening gas valve.
- The gas valve is now open for refrigerant flow. Replace valve stem cap to prevent leaks. Again, these caps **MUST BE REPLACED** to prevent leaks. Replace valve stem and pressure tap cap finger tight, then tighten an additional 1/6 turn. See Figure 4.  
If refrigerant lines are longer than fifteen (15) feet and/or a different size than recommended, it will be necessary to adjust system refrigerant charge upon completion of installation. See unit Service Facts.

**E. ELECTRICAL CONNECTIONS**

**⚠ WARNING**

**Live Electrical Components!**

During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.

- Power wiring and grounding of equipment must comply with national, state and/or local codes.
- Power supply must agree with equipment nameplate.
- Install a separate disconnect switch at the outdoor unit.
- Ground the outdoor unit per code requirements.
- Provide flexible electrical conduit whenever vibration transmission may create a noise problem within the structure.
- The use of color coded low voltage wire is recommended to simplify connections between the outdoor unit, the ComfortLink™ II control and the indoor unit

Table 1 – NEC Class II Control Wiring

ComfortLink™ II Control Wiring	
WIRE SIZE	MAX. WIRE LENGTH
18 AWG	250 FT

**NOTE:**

The maximum total cable length for the entire Comfort Control communicating system is 500 ft. 18 AWG.

- Mount the ComfortLink™ II control in accordance with instruction included with the ComfortLink™ II control. Wire per appropriate hook-up diagram (included in these instructions).

# Installer's Guide

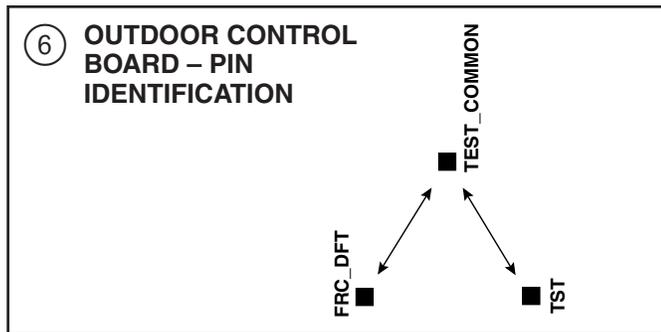
## F. DEFROST CONTROL (HEAT PUMPS ONLY)

The demand defrost control measures heat pump outdoor ambient temperature with a sensor located outside the outdoor coil. A second sensor located on the outdoor coil is used to measure the coil temperature. The difference between the ambient and the colder coil temperature is the difference or delta-T measurement. This delta-T measurement is representative of the operating state and relative capacity of the heat pump system. By measuring the change in delta-T, we can determine the need for defrost. The coil sensor also serves to sense outdoor coil temperature for termination of the defrost cycle.

### FAULT IDENTIFICATION

A fault condition is indicated by the fault LED on the control board inside the heat pump control box.

In normal operation, the status LED will flash once each second. If the light is flashing more than once per second or not at all, refer to the Service Facts for that unit.



### PIN IDENTIFICATION (SEE FIGURE 6.)

1. TEST\_COMMON (Shorting any of the other pins to this pin causes the function of the other pin to be executed. Leaving this pin open results in the normal mode of operation.)
2. TST = Test (Shorting TEST\_COMMON to this pin speeds up all defrost board timings.)
3. FRC\_DFT = Forced Defrost (Short TEST\_COMMON to this pin for two [2] seconds to initiate a forced defrost. Remove the short after defrost initiates.)

### DEFROST CONTROL CHECKOUT

Normal operation requires:

- a. Status LED on board flashing 1 time/second.
- b. 12VDC between D & B.
- c. Defrost initiation when FRC\_DFT pin is shorted to TEST\_COMMON pin.

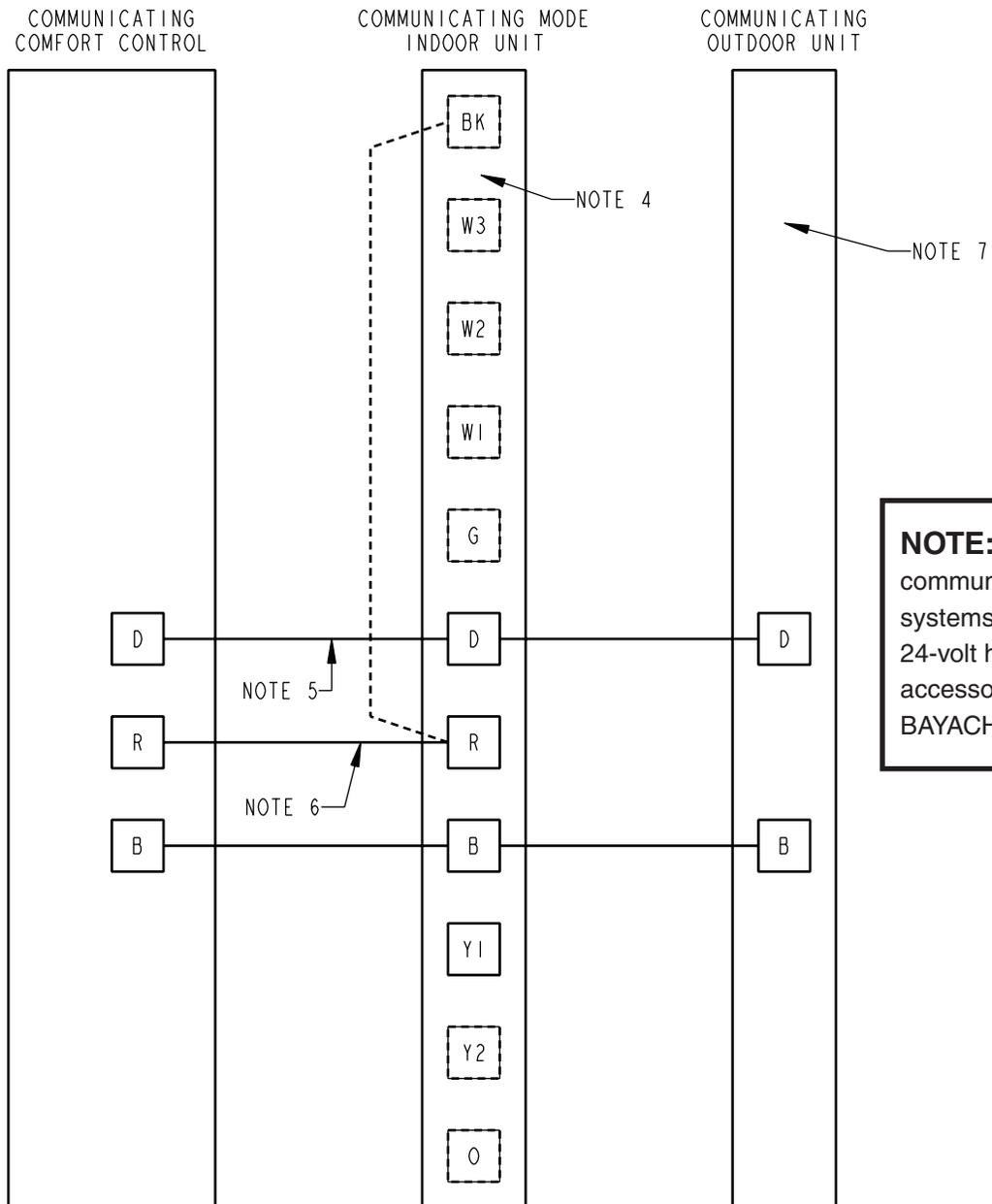
If a defrost control problem is suspected, refer to the service information in control box.

## G. COMPRESSOR START UP

After all electrical wiring is complete, SET THE COMFORTLINK™ II CONTROL SWITCH IN THE OFF POSITION SO COMPRESSOR WILL NOT RUN, and apply power by closing the system main disconnect switch. This will activate the compressor sump heat (where used). Do not change the ComfortLink™ II control Switch until power has been applied for one (1) hour. Following this procedure will prevent potential compressor overload trip at the initial start-up.

7

## FIELD WIRING DIAGRAM COMMUNICATING INDOOR UNIT – COMMUNICATING OUTDOOR UNIT



**NOTE:** For non-communicating systems use 24-volt harness accessory BAYACHP024A.

**LEGEND**

----- FACTORY WIRING

————— FIELD WIRING

[ T ] TERMINAL MAY OR MAY NOT BE PRESENT ON UNIT

**NOTES:**

1. SEE WIRING DIAGRAMS IN SERVICE FACTS FOR COMPLETE WIRING INFORMATION.
2. LOW VOLTAGE WIRING TO BE NO. 18 AWG MINIMUM CONDUCTOR.
3. BE SURE POWER SUPPLY AGREES WITH EQUIPMENT NAMEPLATE. POWER WIRING AND GROUNDING OF EQUIPMENT MUST COMPLY WITH LOCAL CODES.
4. IN COMMUNICATING MODE, UNUSED TERMINALS ARE NOT FUNCTIONAL. DO NOT USE.
5. "D" IS THE DATA LINE. INSTALLER TO SELECT A WIRE COLOR.
6. TO CONNECT OPTIONAL DEVICES (SUCH AS A FLOAT SWITCH) WIRE IN SERIES FROM INDOOR "R" TO COMFORT CONTROL "R".
7. WHEN CONVERTING OUTDOOR UNIT TO 24 VAC MODE, USE 24 VAC HARNESS ACCESSORY (BAYACHP024\*).

PRINTED FROM D802614P01 REV01

# Installer's Guide

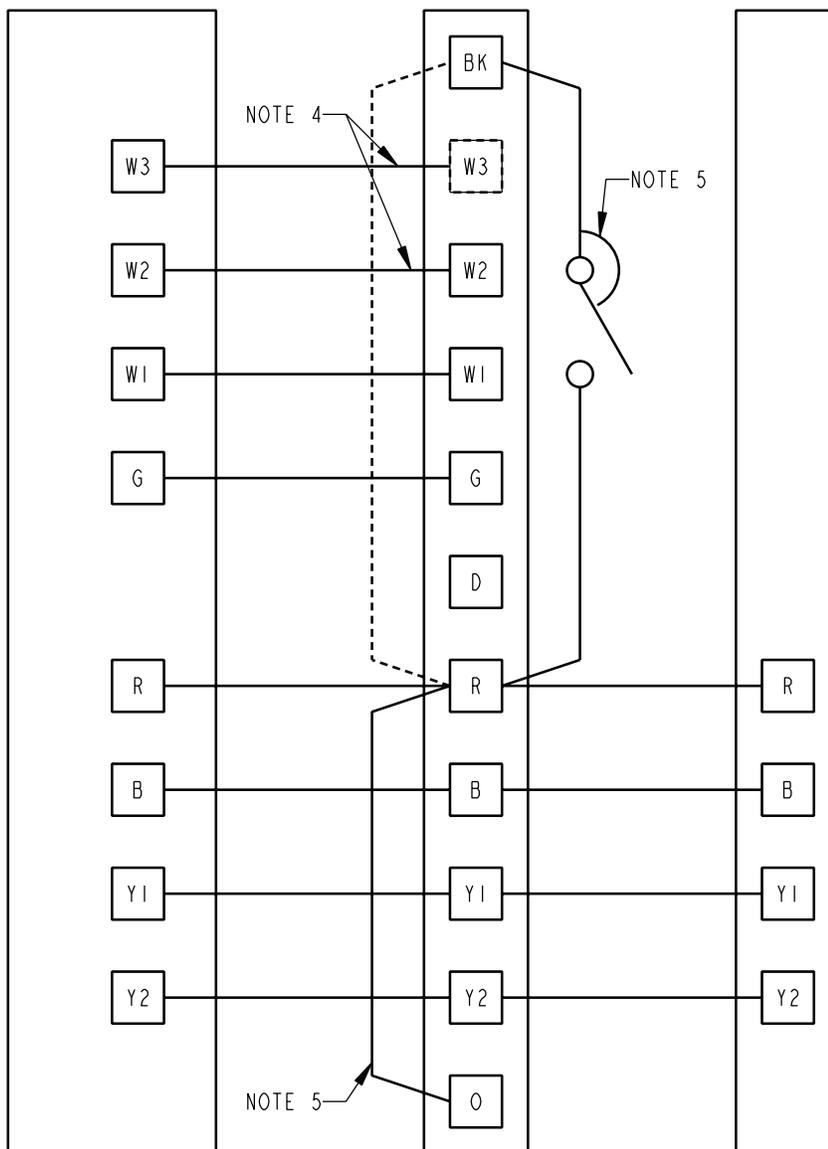
8

## COMMUNICATING INDOOR UNIT WITH 24V COMFORT CONTROL, 24V 2-STAGE OR 2-STEP COOLING

TYPICAL 24 VAC  
COMFORT CONTROL  
(SEE CONTROL INSTALLER'S GUIDE)

24 VAC MODE  
INDOOR UNIT

24 VAC OUTDOOR UNIT  
2-STAGE OR 2-STEP AC



### LEGEND

- FACTORY WIRING
- FIELD WIRING
- T TERMINAL MAY OR MAY NOT BE PRESENT ON UNIT

PRINTED FROM D802614P04 REV01

### NOTES:

1. SEE WIRING DIAGRAMS IN SERVICE FACTS FOR COMPLETE WIRING INFORMATION.
2. LOW VOLTAGE WIRING TO BE NO. 18 AWG MINIMUM CONDUCTOR.
3. BE SURE POWER SUPPLY AGREES WITH EQUIPMENT NAMEPLATE. POWER WIRING AND GROUNDING OF EQUIPMENT MUST COMPLY WITH LOCAL CODES.
4. OPTIONAL FIELD WIRING. CONNECT ONLY IF THESE HEATING STAGES ARE USED.
5. CONNECTIONS TO "R", "BK", AND "O" MUST BE MADE AS SHOWN FOR PROPER OPERATION WITH OPTIONAL HUMIDISTAT IN COOLING. FACTORY "R" TO "BK" JUMPER ON TERMINAL BLOCK MUST BE REMOVED ON AIR HANDLING UNITS. FACTORY "R" TO "BK" JUMPER ON FURNACE CONTROL MUST BE CUT ON FURNACES.
6. SEE USER INTERFACE 24 VAC MODE SETUP MENU FOR 1ST STAGE CFM OPTIONS.  
2-STAGE = 39-64%  
2-STEP = 65-80%

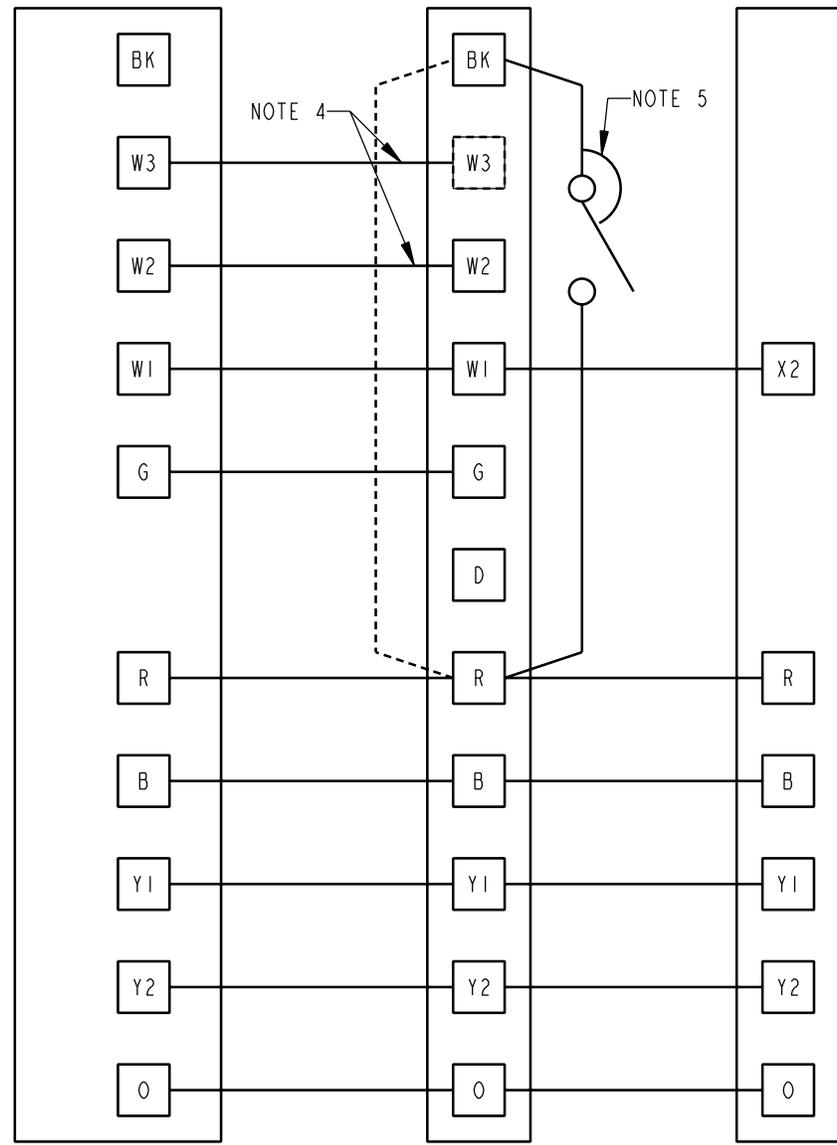
9

## COMMUNICATING INDOOR UNIT WITH 24V COMFORT CONTROL, 24V 2-STAGE OR 2-STEP HEAT PUMP

TYPICAL 24 VAC  
COMFORT CONTROL  
(SEE CONTROL INSTALLER'S GUIDE)

24 VAC MODE  
INDOOR UNIT

24 VAC OUTDOOR UNIT  
2-STAGE OR 2-STEP HP

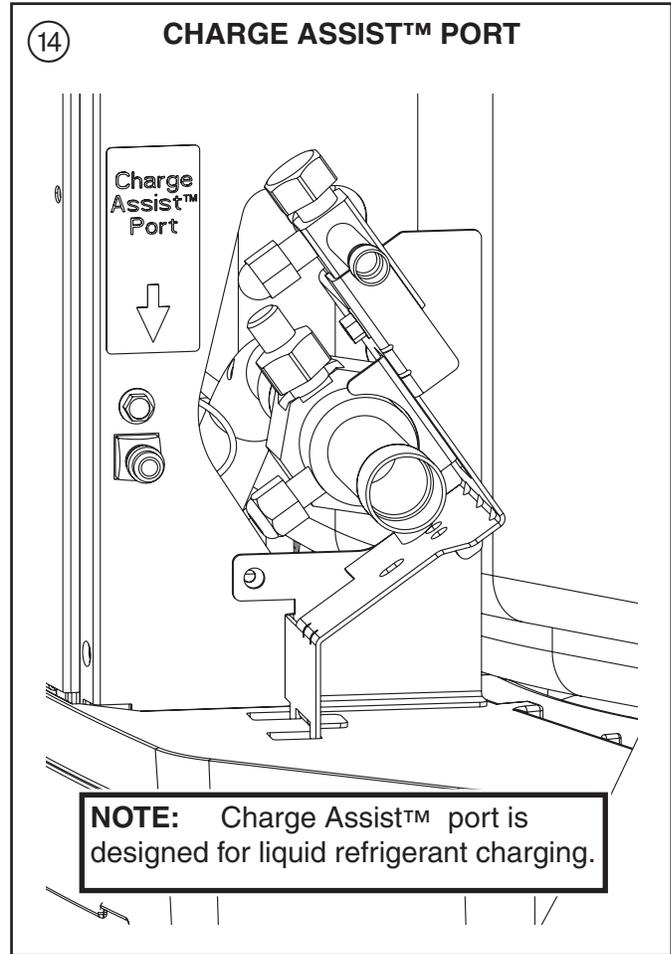
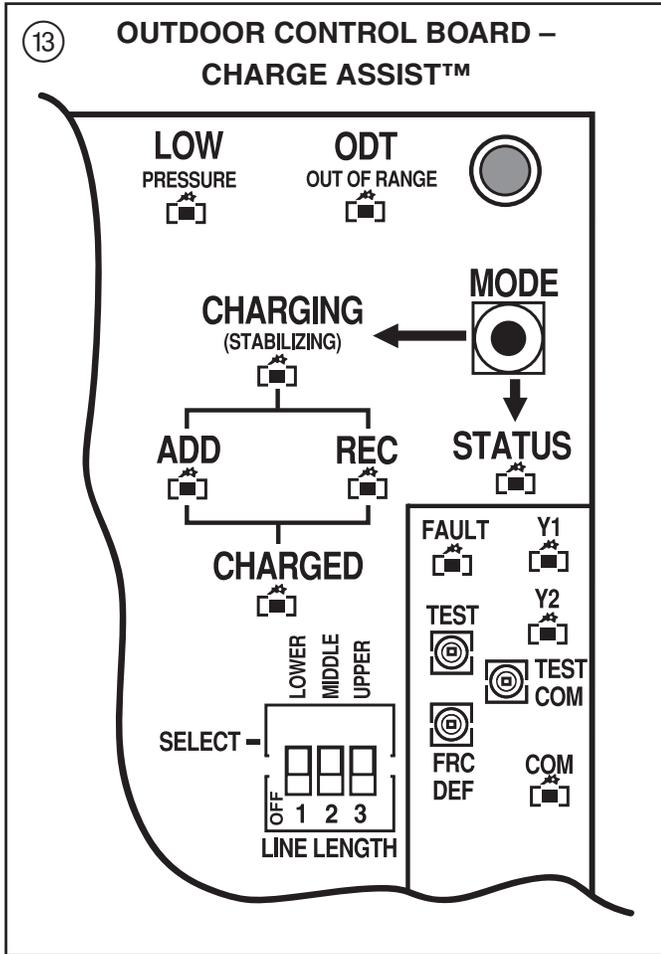


**LEGEND**  
 ----- FACTORY WIRING  
 \_\_\_\_\_ FIELD WIRING  
 [ T ] TERMINAL MAY OR MAY NOT BE PRESENT ON UNIT

- NOTES:**
- SEE WIRING DIAGRAMS IN SERVICE FACTS FOR COMPLETE WIRING INFORMATION.
  - LOW VOLTAGE WIRING TO BE NO. 18 AWG MINIMUM CONDUCTOR.
  - BE SURE POWER SUPPLY AGREES WITH EQUIPMENT NAMEPLATE. POWER WIRING AND GROUNDING OF EQUIPMENT MUST COMPLY WITH LOCAL CODES.
  - OPTIONAL FIELD WIRING. CONNECT ONLY IF THESE HEATING STAGES ARE USED.
  - CONNECTIONS TO "R", "BK", AND "O" MUST BE MADE AS SHOWN FOR PROPER OPERATION WITH OPTIONAL HUMIDISTAT IN COOLING. FACTORY "R" TO "BK" JUMPER ON TERMINAL BLOCK MUST BE REMOVED ON AIR HANDLING UNITS. FACTORY "R" TO "BK" JUMPER ON FURNACE CONTROL MUST BE CUT ON FURNACES.
  - ON FURNACE APPLICATIONS, COMFORT CONTROL MUST BE DUAL FUEL COMPATIBLE (SEE CONTROL INSTALLER'S GUIDE) OR MUST USE TAYPLUS103.
  - SEE USER INTERFACE 24 VAC MODE SETUP MENU FOR 1ST STAGE CFM OPTIONS.  
 2-STAGE = 39-64%  
 2-STEP = 65-80%

PRINTED FROM D802614P06 REV01

# Installer's Guide



## DIRECTION FOR CHARGE ASSIST™

**NOTE:** Outdoor Temperature (ODT) must be between 55°F and 120°F.

Be sure to set Dip Switches on the Outdoor Control Board for Line Length and Lift before entering Charge Assist™ Mode. (See Sub-cool Charging Table Corrections for Line Length and Rise on the next page or in the Service Facts for the outdoor unit.)

To enter Charge Assist™ Mode, press the MODE button for at least one (1) second. The on-board LEDs will indicate if the system is capable of continuing. For a detailed description of on-board LEDs and their function, see the Service Facts.

The system will take approximately 12-20 minutes to stabilize before the charge can be checked by Charge Assist™. Once the system is stabilized, watch to see which LED turns on next. If the system charge is correct, the “CHARGED” LED will turn on and remain on for one (1) hour. Once charged, the system will exit Charge Assist™ and control will return to the Comfort Control.

If the system charge is low, the “ADD” LED will turn on and stay on up to one (1) hour or until enough refrigerant is added to reach the required system charge level and turn on the “CHARGED” LED.

When the “ADD” LED is on, the charging solenoid output will be active. This feature works to automatically control refrigerant flow with BAYCAKT001.

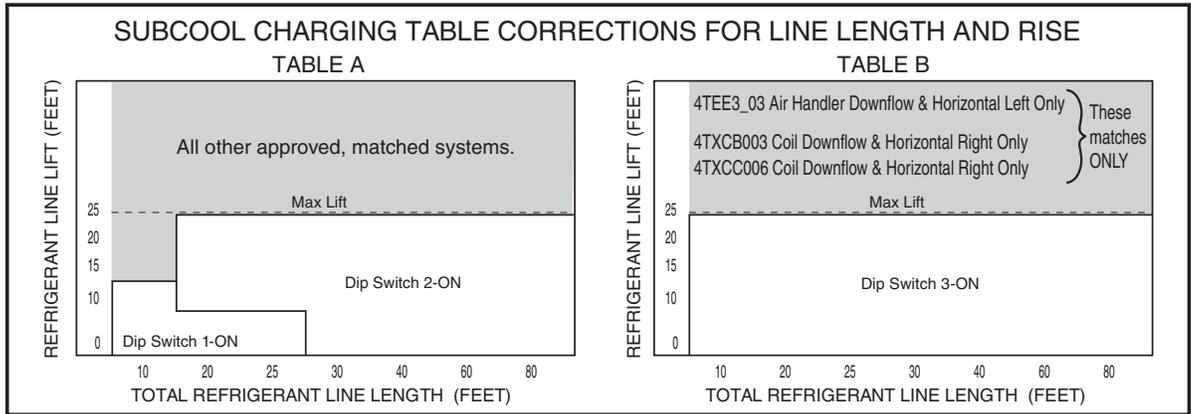
If the system charge is high, the “REC” LED will turn on and the unit will exit Charge Assist™. You must recover refrigerant from the system before re-entering Charge Assist™.

For instructions on the Charge Assist™ tool BAYCAKT001, see the Installer's Guide 18-HH15D1.\* (the position of the \* denotes the latest revision number).

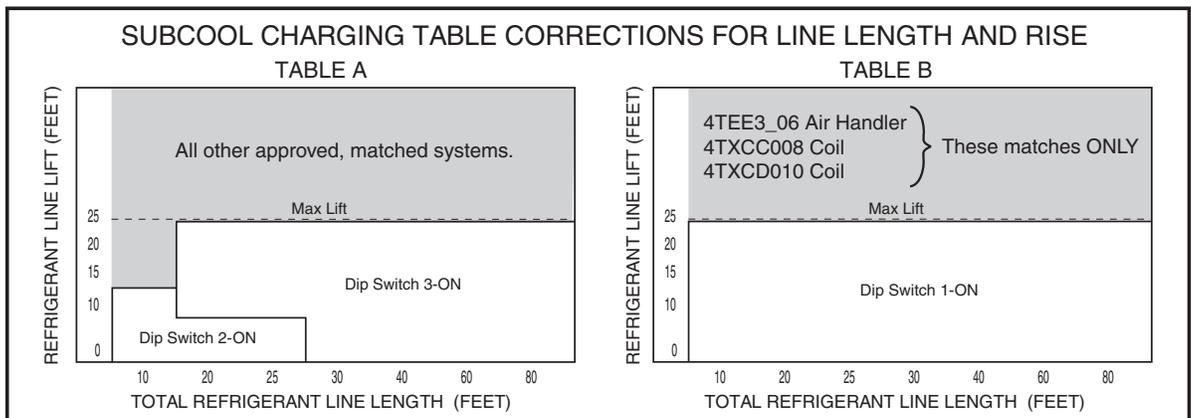
*For additional information on manual charging, please see the Service Facts shipped with the outdoor unit.*

## SUBCOOL CHARGING TABLE CORRECTIONS

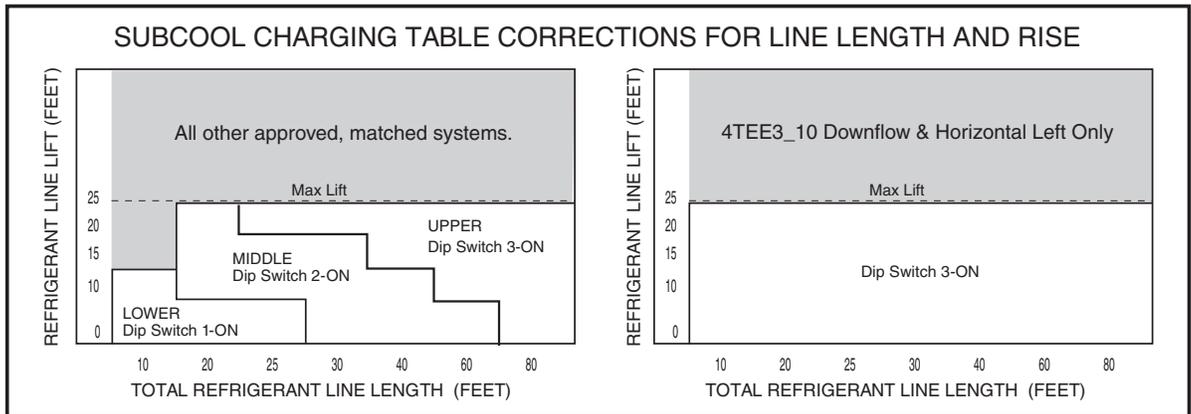
2-TON HP MODEL ONLY



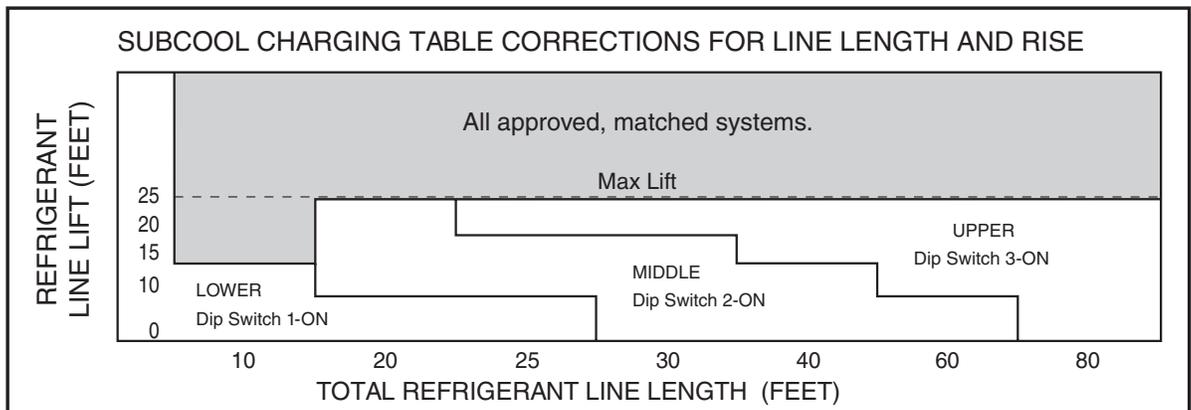
4-TON HP MODEL ONLY



5-TON HP MODELS ONLY



ALL AC MODELS  
AND  
3-TON HP MODELS



# Installer's Guide

## H. OPERATIONAL AND CHECKOUT PROCEDURES

Final phases of this installation are the unit Operational and Checkout Procedures which are found in this instruction on page 11. To obtain proper performance, all units must be operated and charge adjustments made in accordance with procedures found in the Service Facts.

### IMPORTANT:

Perform a final unit inspection to be sure that factory tubing has not shifted during shipment. Adjust tubing if necessary so tubes do not rub against each other when the unit runs. Also be sure that wiring connections are tight and wire routing is secure.

## I. ELECTRIC HEATERS

Electric heaters, if used, are to be installed in the air handling device according to the instructions accompanying the air handler and the heaters.

## J. SEACOAST SHIELD

If installed within one mile of salt water, including seacoasts and inland waterways, models without factory supplied Seacoast Salt Shields require the addition of BAYSEAC001 (Seacoast Kit) at installation time. Please refer to Application Guide SS-APB006-EN: Trane - Sea Coast Applications.

### IMPORTANT:

See Limited Warranty information in Use and Care Manual.

# TROUBLESHOOTING CHART — WHAT TO CHECK

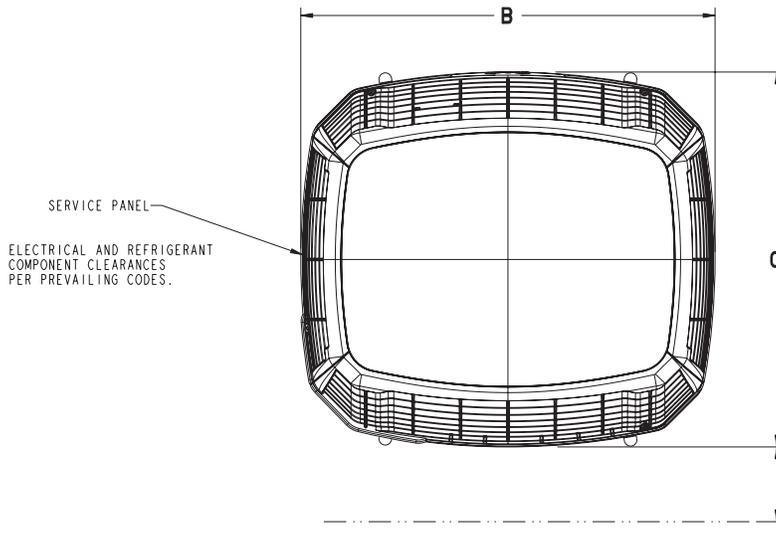
SYSTEM FAULTS	WHAT TO CHECK																										
	WHAT TO CHECK MODE	HIGH VOLTAGE SUPPLY	COMPRESSOR WIRING	RUN CAPACITOR	START CAPACITOR	CONTRACTOR CONTACTS	CONTROL TRANSFORMER	LOW VOLTAGE WIRING	CONTRACTOR RELAY	THERMOSTAT	CONTACTOR COIL	STUCK COMPRESSOR	INEFFICIENT COMP.	REF. UNDERCHARGE	EXCESSIVE EVAP. LOAD	NONCONDENSABLES	O.D. AIR RECIRCULATION	TYPIEL STUCK OPEN	REF. O.D. AIRFLOW	RES. J.D. AIRFLOW	SUPERHEAT	REF. OIL RESTRICTIONS	SOV COIL DEFECTIVE	*DEFROST RELAY LEAKING	DEFROST CONTROL DEF.		
<b>REFRIGERANT CIRCUIT</b>																											
Head Pressure Too High	C																										
	H																										
Head Pressure Too Low	C																										
	H																										
Suction Pressure Too High	C																										
	H																										
Suction Pressure Too Low	C																										
	H																										
Liquid Refrig. Floodback (TXV/EEV)	C																										
	H																										
Liquid Refrig. Floodback (Cap. Tube)	C																										
	H																										
I.D. Coil Frosting	C																										
	H																										
Compressor Runs Inadequate or No Cooling/Htg	C																										
	H																										
<b>ELECTRICAL</b>																											
Compressor & O.D. Fan Won't Start	C	P	P							S	P	S	P	P													
	H	P	P							S	P	S	P	P													
Compressor Will Not Start But O.D. Fan Runs	C		P	S	P	S	S	S						P													
	H		P	S	P	S	S	S						P													
O.D. Fan Won't Start	C		P		P			S																			
	H		P		P			S																			
Compressor Hums But Won't Start	C				P	S	S	S						P													
	H				P	S	S	S						P													
Compressor Cycles on IOL	C		P	S	P	S	S	S						P	S	P	P	S		S	S		S				
	H		P	S	P	S	S	S						P	S	P	P	S		S	S		S	P			
I.D. Blower Won't Start	C	P	P							S	P	S		S													
	H	P	P							S	P	S		S													
<b>DEFROST</b>																											
Unit Won't Initiate Defrost	C																										
	H																								P	P	P
Defrost Terminates on Time	C																										
	H													P													P
Unit Icing Up	C																										
	H													P			S	S		S				P		P	

C - Cooling H - Heating P - Primary Causes S - Secondary Causes \* - 3 Phase Only

15

## 4TTZ0/4TWZ0 OUTLINE DRAWING

NOTE: ALL DIMENSIONS ARE IN MM (INCHES).



UNIT SHOULD BE PLACED SO ROOF RUN-OFF WATER DOES NOT POUR DIRECTLY ON UNIT, AND SHOULD BE AT LEAST 305 (12") FROM WALL AND ALL SURROUNDING SHRUBBERY ON TWO SIDES. OTHER TWO SIDES UNRESTRICTED.

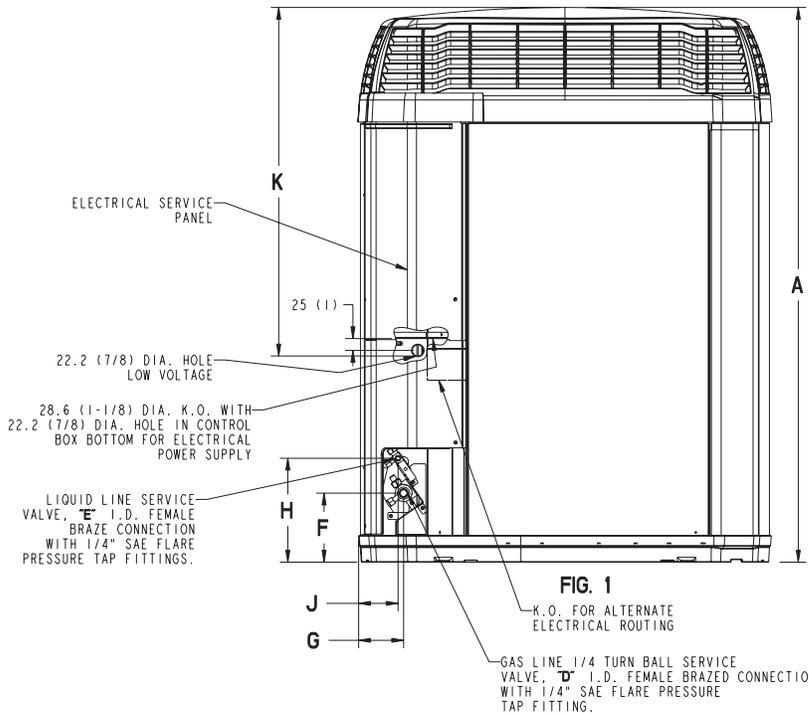


FIG. 1

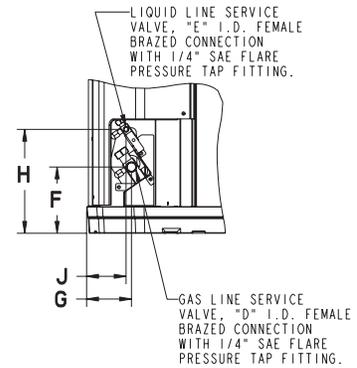


FIG. 2

MODELS	BASE	A	B	C	D	E	F	G	H	J	K
4TTZ0024A 4TWZ0024A	4	1369 (53 7/8)	946 (37-1/4)	870 (34-1/4)	5/8	3/8	152 (6)	98 (3-7/8)	219 (8-5/8)	86 (3-3/8)	1035 (40 3/4)
4TTZ0036A 4TWZ0036A 4TTZ0048A 4TWZ0048A 4TTZ0060A 4TWZ0060A	4	1369 (53 7/8)	946 (37-1/4)	870 (34-1/4)	3/4	3/8	152 (6)	98 (3-7/8)	219 (8-5/8)	86 (3-3/8)	1035 (40 3/4)

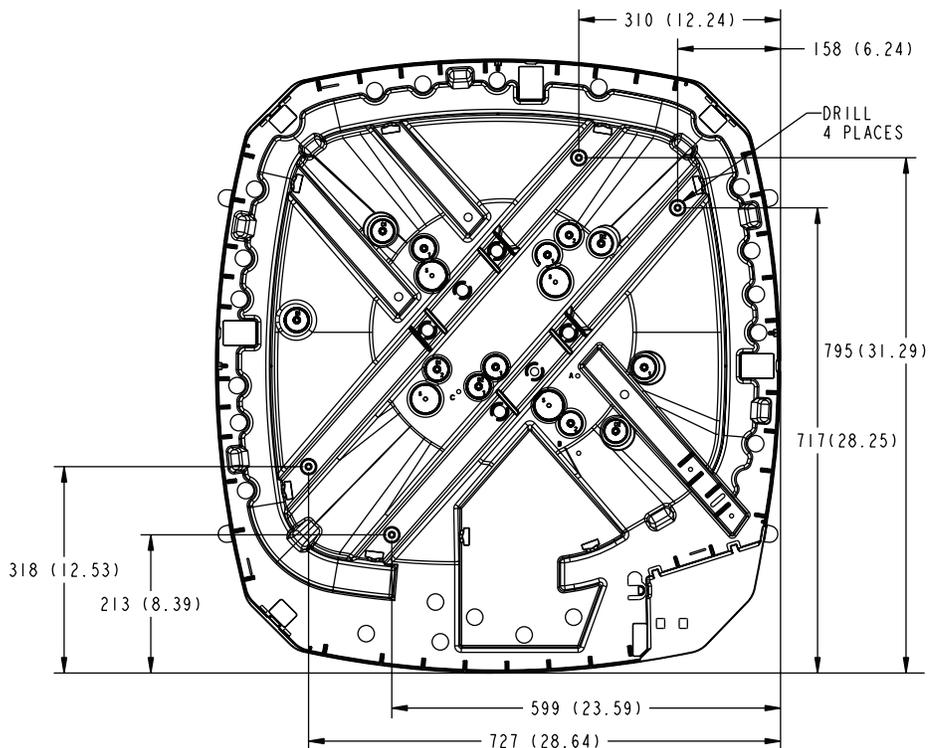
From Dwg. D152635 Rev. 15

# Installer's Guide

16

## MOUNTING HOLE LOCATION

NOTE: ALL DIMENSIONS ARE IN MM (INCHES).



BASE 4

From Dwg. D152637 Rev. 2

### CHECKOUT PROCEDURE

After installation has been completed, it is recommended that the entire system be checked against the following list:

- |  |     |   |     |
|--|-----|---|-----|
| 1. Refrigerant Line, Leak checked .....  | [ ] | 8. Supply registers and return grilles open and unobstructed.....   | [ ] |
| 2. Suction Lines and Fittings properly insulated.....  | [ ] | 9. Return air filter installed .....  | [ ] |
| 3. Have all Refrigerant Lines been secured and isolated properly?.....   | [ ] | 10. ComfortLink™ II control is accurate. Check against a reliable thermometer. Adjust per instructions with ComfortLink™ II control ..... | [ ] |
| 4. Have passages through masonry been sealed? If mortar is used, prevent mortar from coming into direct contact with copper tubing ..... | [ ] | 11. Is correct airflow setting used? (Indoor blower motor) .....  | [ ] |
| 5. Verify tightness of all electrical connects .....   | [ ] | 12. Operate complete system in each mode to insure safe operation. ....   | [ ] |
| 6. Observe outdoor fan during on cycle for clearance and smooth operation .....  | [ ] |   |     |
| 7. Indoor coil drain line drains freely. Pour water into drain pan.....  | [ ] |   |     |



ARI Standard  
210/240 UHP




---



---



---



---

02/09