



Packaged Terminal Air Conditioners & Heat Pumps





Electric Power

Table EP-1 — Electric Heat Capacity and Electrical Data (For PTED and PTHD Models)***

Voltage ²	Electric Heater Size (kW)	No. Of Stages	Nominal Heating			Total Watts ⁴	Minimum Circuit Overcurrent			Power Cord
			Btuh at 230V	Btuh at 208V	Btuh at 265V		Total Amps	Ampacity ¹	Protection ³	
230/208	2.0/1.6	1	6,800	5,500	-	2040/1635	8.9/7.9	11.1	15	6-15 P
230/208 Y	3.5/2.9	1	11,900	9,900	-	3540/2935	15.4/14.1	19.3	20	6-20 P
265	5.0/4.1	1	17,100	14,000	-	5040/4135	21.9/19.9	27.4	30	6-30 P
265	2.0	1	-	-	6,800	2,040	7.7	9.6	15	7-20 P
265	3.7	1	-	-	11,900	3,740	14.1	17.6	20	7-20 P
265	5.0	1	-	-	17,100	5,040	19.0	23.8	30	7-30 P

Notes:

1. Minimum branch circuit ampacity ratings conform to the National Electric Code. However, local codes should apply.
 2. Minimum voltage on 208/230 volt models is 197 volts; maximum is 253 volts. Minimum voltage on 265 volt models is 238.5 volts; maximum is 291.5 volts.
 3. Overcurrent protection for all units **without electric heaters is 15 amps**. Overcurrent protection on 265 volt models must be cartridge-style time delay fuses (included and factory installed on Trane chassis).
 4. Total watts for 7,000 and 9,000 Btu models; add 70 watts for size 12 and for size 15.
- **PTEC/PTHC09 and 12 are two-stage; PTED/PTHD15 is one-stage.
 *** Note: All heat pumps must have electric coils.

Table EP-2 — Power Receptacle Configurations

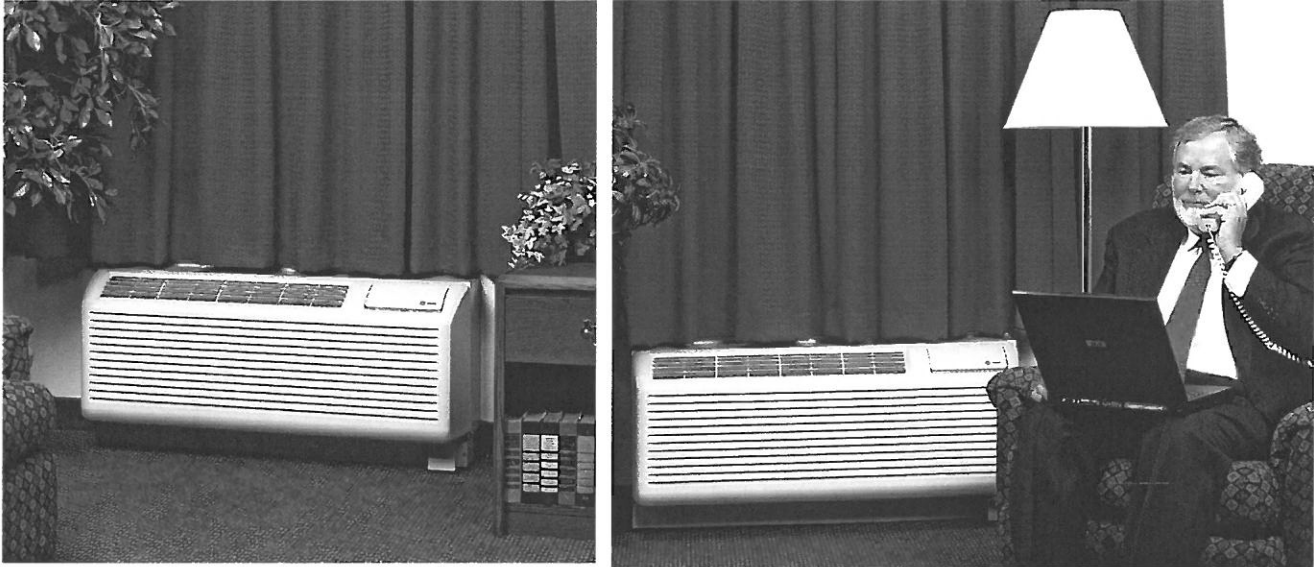
Voltage	208/230			265	
Unit Supplied Plug					
Amps	15	20	30	20	30
NEMA Rating	6-15P	6-20P	6-30P	7-20P	7-30P
Receptacle					
Amps	20	20	30	20	30
NEMA Rating	6-20R	6-20R	6-30R	7-20R	7-30R

Notes:

1. All wiring, including receptacles, must be made in accordance with local electrical codes and regulations.
2. NEMA 6-15 and 6-20 plugs fit in NEMA 6-20 receptacles.
3. Receptacles shown for 208/230 applications are factory supplied with subbase, per local codes for wall mounted receptacles use or the corresponding NEMA receptacles.
4. Receptacles shown for 265 volt applications are factory supplied with subbase. Codes do not allow 265 volt units to mate with wall mounted receptacles. They may however be hard-wired per Local Codes.



Introduction



Trane Packaged Terminal Air Conditioners (PTACs) and heat pumps are ideally suited for offices, apartments, hotels, motels, dormitories and nursing homes. Key benefits which make the units a wise choice are:

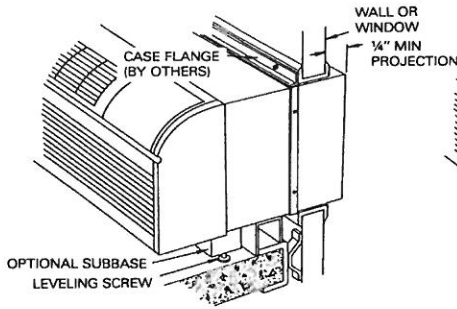
- Energy efficiency
- Reliability
- Quiet operation
- Comfort
- Easy-to-use controls
- Attractive and compact design
- Ease of installation and servicing

Contents

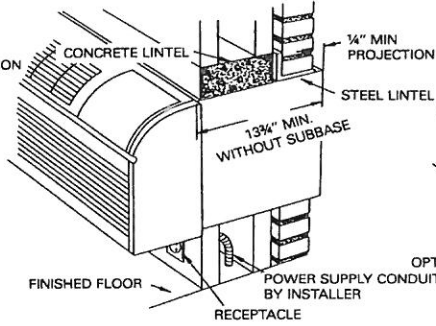
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Application Considerations

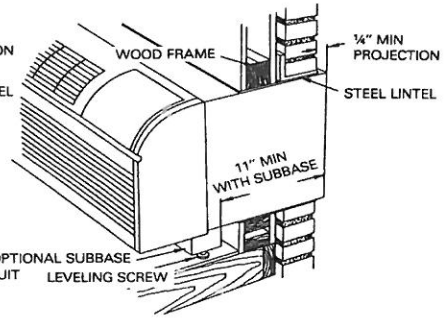
Curtain Wall Installation



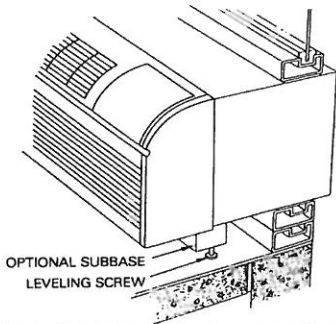
Block and Brick Veneer Installation



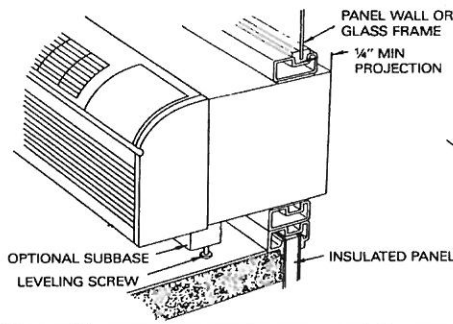
Frame and Brick Veneer Installation



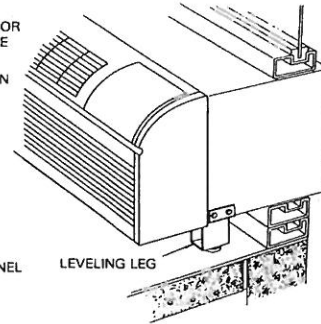
Panel Wall Installation



Panel Wall and Block Veneer Installation



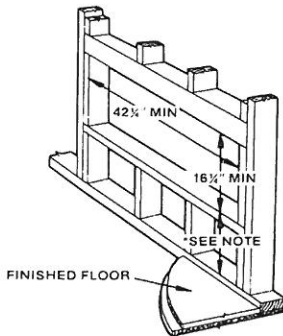
Optional Leveling Leg



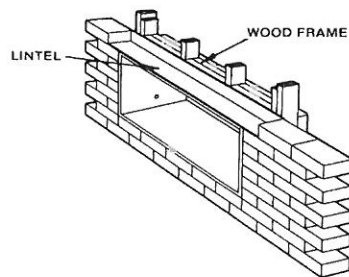
On applications not requiring subbase or leveling legs, unit may be flush mounted to floor.

Sleeve Installation Data

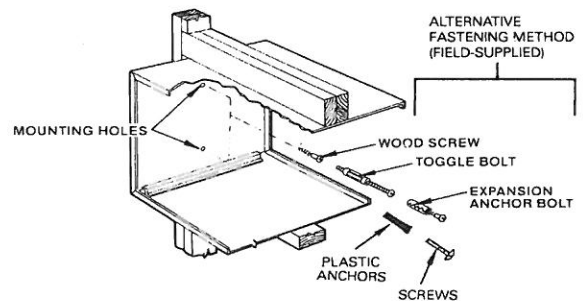
Framing for Wall Case



Framing With Lintel



Attaching Wall Sleeve to Opening



1. 3 1/4" minimum with subbase.
2. On applications not requiring subbase or leveling legs, unit may be flush mounted to floor.



Model Number Description

MODEL NOMENCLATURE

PT E D 090 1 G * A
12 3 4 567 8 9 10 11

**Digits 1,2 — Packaged Terminal
Air Conditioner**

Digit 3 — Product Type

E = Air Conditioner
H = Heat Pump

Digit 4 — Development Sequence

D = Fourth Development

Digits 5,6,7 — Unit Cooling Capacity

070 = 7,000 Btu
090 = 9,000 Btu
120 = 12,000 Btu
150 = 15,000 Btu

Digit 8 — Main Power Supply

1 = 208-230V/60Hz/1phase
2 = 265V/60Hz/1phase
4 = 115V/60Hz/1phase*

Digit 9 — Electric Heating Capacity**

W = Hydronic***
D = 2.0 kW
G = 3.5 kW - 208-230V
G = 3.7 kW - 265V
J = 5 kW****

Digit 10 — Design Sequence

Digit 11— Miscellaneous

A = Standard
C = Corrosion Resistant
D = Condensate Pump

*Hydronic unit only. Sizes 07, 09, and 12 only.

**All heat pump units must have electric coils.

***Hydronic units ship with no electric heat and no plastic front cover. The hydronic kit, which must be ordered separately, includes a metal front cover.

****Sizes 09, 12 and 15 only.

STOCK STYLE MODELS (Maximum Order Quantity)

Model quantities are limited for stock items. The following maximum quantities apply for stock models, for shipment within 3 days. Orders over these quantities as well as non-stock models will be processed as production orders which have a 6-8 week lead time.

Air Conditioners

PTED0701WAA (2)
PTED0701DAA (5)
PTED0701GAA (15)

PTED0901WAA (5)
PTED0901DAA (2)
PTED0901GAA (40)
PTED0902DAA (2)
PTED0902GAA (5)

PTED1201WAA (5)
PTED1201GAA (40)
PTED1201JAA (5)
PTED1202GAA (5)

PTED1501WAA (5)
PTED1501GAA (40)
PTED1501JAA (15)
PTED1502GAA (5)

Heat Pumps

PTHD0701DAA (5)
PTHD0701GAA (5)

PTHD0901DAA (5)
PTHD0901GAA (25)
PTHD0902DAA (2)
PTHD0902GAA (5)

PTHD1201GAA (40)
PTHD1201JAA (2)
PTHD1202GAA (15)

PTHD1501GAA (25)
PTHD1501JAA (25)
PTHD1502GAA (15)



Features and Benefits

Energy Efficiency

Trane PTAC units and heat pumps are among the most efficient in the industry, with EERs up to 12.5 and COPs up to 3.6. The efficient design of the two direct-drive motors allow for separate indoor and outdoor fan operation to increase energy efficiency and reduce noise levels.

Packaged terminal heat pumps are an ideal choice for heating requirements in light to moderate wintry climates. Heat pumps provide a more efficient option over electric heat units by drawing 25 - 75% less wattage. Less wattage per hour directly translates to energy savings.

During heating operation, refrigerant in the heat pump runs in the reverse direction of the cooling operations. The outside air is cooled, thereby giving up heat to the refrigerant in the heat pump. This heat is then pumped back inside, resulting in up to three Btu's of heat for every Btu of energy consumed.

During cooling operation, heat and humidity are removed from the building as the air is cooled. This heat proceeds through the compression cycle and is ultimately rejected to the outside air.

Energy-saving options available with PTAC units include:

Energy Management

Every Trane PTAC comes equipped with the ability to provide temperature setbacks on the PTAC when the room is not occupied. This feature works in conjunction with a door switch and an infrared occupancy sensor.

When the door switch changes state (the door opens or closes), the unit control starts a 35 minute timer. If at the end of the 35 minutes, the occupancy sensor does not detect room movement, the unit is in "Occupied-Standby" Mode. If at any time during the 35 minutes the occupancy sensor detects motion, the unit is in "Occupied" Mode. Once the room is in an "Occupied" Mode, the control will ignore the occupancy sensor until a state change on the door switch input occurs. For additional energy savings, when the unit is in "Occupied-Standby" mode, the setpoint

temperature is adjusted 4°F down in the heating mode or 4°F up in the cooling mode.

Energy management terminals provide control inputs for an occupancy sensor and door switch.

Front Desk Control

The front desk feature provides terminal inputs to disable the unit from a remote location.

Electronic Setpoint Limiter

The setpoint limiting feature can reduce energy costs by controlling the maximum setpoint in heating and the minimum setpoint in cooling.

Fan Cycle Switch

By a simple configuration of dip switches, the indoor fan will function in 4 different modes.

- Fan will cycle on/off with a call for heating or cooling.
- Fan will run continuously on selected fan speed except when mode switch is in off position or front desk control is enabled.
- Fan will run continuously on selected fan speed, even when mode switch is in off position. Front desk control will override if enabled.
- Fan will run continuously on selected fan speed unless power is removed from the unit.

Reliability

These features help assure reliable operation:

Room Freeze Protection

When the unit senses room temperatures of 40°F or below, the unit activates the fan motor and either the electric resistance heater or the hydronic heater to help prevent pipes or fixtures from freezing. This also overrides front desk control of the unit mounted or wall mounted controls.

Automatic 2nd Stage Electric Heat (PTHD only)

If the room temperature fall to 2.5°F below the setpoint temperature or the unit compressor fails, the reverse cycle heat is shut off and the electric heat is turned on.



Features and Benefits

Active Defrost (PTHDs only)

The Trane PTAC has an active defrosting system that will remove any ice build-up on the outdoor coil that may occur during the heat pump cycle.

Random Restart

This function allows for the random restart of the Trane PTAC units in a building in the event of a power outage. The restart delay will reduce the initial inrush current from the building to help prevent a second power outage due to too much current draw.

The random restart will occur every 0.5 seconds for 1 minute after the 3 minute compressor off delay.

Compressor Restart Delay

After the compressor cycles off, it will not restart for three minutes. This feature prevents the compressor from short cycling and extends the overall life of the compressor.

Comfort

Dehumidification and air filtration are both factors affecting comfort. When the air is dehumidified, occupants feel more comfortable at higher temperatures. Another benefit is that dehumidification can help extend the life of furniture, wall coverings and fixtures. Trane PTACs help maintain lower humidity levels in rooms, without the need for expensive add-on's.

The hidden ventilation air intake filters outside air to reduce dust and pollen. When ventilation air is filtered, rooms stay cleaner, longer.

Quiet Operation

State-of-the-art design and construction provide a quiet environment for guests to relax. Contributing to the quiet operation of the unit are:

- Cross flow (tangential) fan
- Acoustical rubber-in-shear isolators under the compressor.
- Isolated fan motors.

User-Friendly Controls

Controls are easy to read, understand and activate. Controls indicate temperature setpoints and operating mode.

Remote Thermostat Control

Each unit is built to be operated from any standard 4 or 5 wire remote-mounted thermostat, if desired. The unit has a built-in low voltage power source which can accommodate a large variety of thermostat choices — manual, auto changeover or programmable. A remote thermostat can also be added to any installed unit.

Trane Zone Sensor

Occupants enjoy ultimate comfort with consistent climate control. Attach an optional, inexpensive remote Trane Zone Sensor, to exactly match the functions of the PTAC without disabling any features.

Attractive and Compact Design

The unit front has a sleek 7 1/4" depth, one of the shallowest silhouettes in the industry today.

Our unit's new stylish design and neutral color make it compatible with virtually any room decor or architectural design.

Special Paint Protection

The electrodeposition paint system on the exterior panels assure the unit and wall sleeve will withstand years of moisture and atmospheric pollutants without giving up its looks to rust and corrosion. All units are built with hot-dipped galvanized steel.

Ease of Installation and Servicing

After the sleeve is in place, plug in or directly hard-wire the unit and it is ready to run. This unit has been designed to replace most competitors' units. In fact this unit can fit into most existing industry standard wall sleeves (13 3/4" D x 42" W x 16 1/16" H), making replacement of old or inefficient units easy and economical. The units may be installed flush with the outside wall.

The main components are easily serviced; the unit is easy to diagnose or troubleshoot to spot potential problems.



Features and Benefits

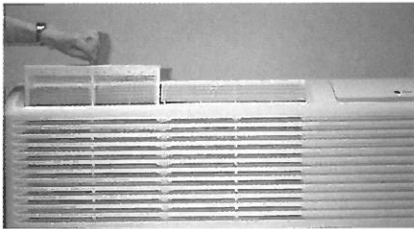
Unit Chassis

Each unit is slide-out design shipped with the front cover installed (with the exception of hydronic models which ship without front cover). An electrical power cord will be included with the chassis and installed by the manufacturer to assure proper NEMA 6 (208/230V) or NEMA 7 (265V) configuration and UL approved length.

Room Cabinet/Front Panel

The room cabinet/front panel has a sloped discharge so that obstructions are not placed on the unit. The discharge conditioned air can be directed into the room at an angle of 15 or 40 degrees from the vertical position.

Pulling a filter out of the unit



When the filter needs to be cleaned or replaced, the filters pull out of the top of the unit for easy access. For more extensive service, the unit slides out of the sleeve easily for full access to all working components.

Filter

The filter is made of permanent, cleanable nylon mesh and is accessible without removing the front cover.

Condenser/Evaporator Fans

Each fan has a direct drive, two-speed motor with permanent split capacitors to provide quieter operation and increased energy efficiency.

Cooling Condensate Removal

The unit has a condensate removal system for high humidity conditions. The system includes a slinger ring which diffuses water directly on to the outdoor condenser coil for rapid evaporation and increased cooling efficiency.

Compressor

The rotary compressor is permanently mounted on rubber isolators. No removal or adjustment of compressor hold down bolts is required during installation.

Outside Air Damper/Vent Control

The vent control allows 70 CFM (7000 and 9000 BTU models) or 80 CFM (12,000 and 15,000 BTU models) of fresh air to be drawn into the room when the indoor fan is operating. Actual vent CFM performance will vary due to application and installation conditions.

Filtered Outdoor Air Intake

The outdoor air intake will be filtered with a polypropylene filter that will reduce the amount of dust coming into the room.

Corrosion-Resistant Chassis (Optional)

The condenser coil is painted using cathodic electrocoat. The bottom ¼ of the compressor is coated with a water borne resin. The outdoor side of interior parts are top coated, in addition, the base pan is cathodic electrocoated.

Unit Controls

The Trane PTAC is operated by a microprocessor based controller. The standard unit mounted controls will include two rotary knobs controlling unit operational mode and temperature setpoint.

Temperature Setpoint Knob

The setpoint knob is controlled by turning the knob clockwise for a warmer room temperature; turning it counterclockwise will provide a cooler room temperature. Adjusting the setpoint to the mid setting (vertical) will set the room temperature at approximately 70°F. Temperature setpoints are clearly labeled on the unit.

Remote Fan

The Trane PTAC has the ability to operate a remote fan in conjunction with the unit's indoor fan. The remote fan allows a single, properly sized, PTAC to provide conditioned air to an additional room.

On Board Diagnostics

An LED will flash a code displaying 1 of 9 specific failure conditions, which include: compressor failure, blown fuse, mode failure, setpoint failure, thermostat wiring failure, indoor air thermistor failure, indoor coil thermistor failure, outdoor air thermistor failure, and outdoor coil thermistor failure.

Drain Pan

The polycarbonate, double-sloped drain pan insures proper condensate removal and promotes better indoor air quality.

Cleanable Discharge Deck

Designed with service in mind, the discharge deck is easily accessible for cleaning purposes.

Features and Benefits

The indoor fan is a cylindrical cross-flow blower fan to assure an evenly distributed air flow and quiet operation.

The vent control allows 70 to 80 cfm of fresh air to be drawn into the conditioned area.

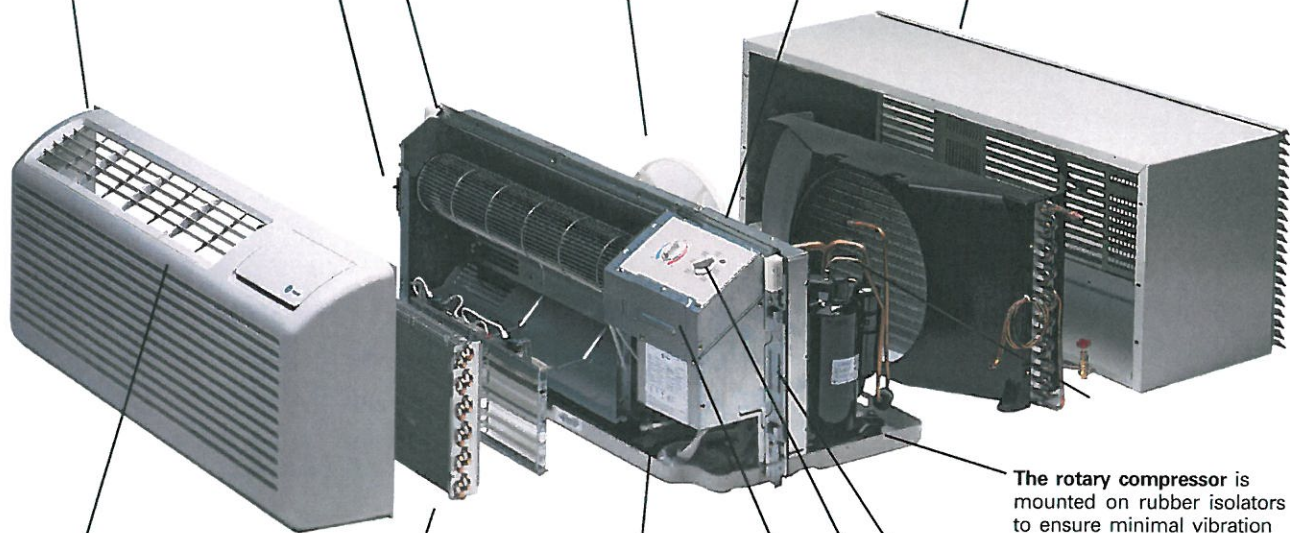
The discharge grille can be directed at an angle of 15 or 40 degrees from vertical for control of airflow.

The outdoor fan consists of 5 injection molded plastic fan blades with slinger ring. The slinger ring removes condensate by diffusing the water directly onto the outdoor coil for rapid evaporation and increased cooling efficiency.

Separate Condenser/Evaporator Fan Motors

Two direct-drive permanent split capacitor two-speed motors allow for separate fan operation to increase energy efficiency and reduce noise.

The wall sleeve is acoustically and thermally insulated for quietness and increased thermal efficiency.



Filter - The nylon mesh filters slide directly out of the front panel and are completely washable for ease of maintenance.

Auto Frost Control removes ice build-up on the outdoor coil that may occur during the heat pump cycle.

Room freeze protection prevents internal room temperatures from reaching less than 40 degrees by energizing the electrical or hydronic heat.

The polycarbonate double-sloped drain pan allows for better condensate removal and promotes better indoor air quality.

The rotary compressor is mounted on rubber isolators to ensure minimal vibration and reduced operating noise.

Slotted holes for ease of installation with a Trane or competitor wall sleeve.

The setpoint knob has temperature indicators versus warmer/cooler settings.

The diagnostic LED (not shown) is capable of displaying 9 specific failure conditions including compressor failure, blown fuse, mode failure, setpoint failure, thermostat wiring failure, indoor air thermistor failure, indoor coil thermistor failure, outdoor air thermistor failure and outdoor coil thermistor failure.

Accessories

Wall Sleeves

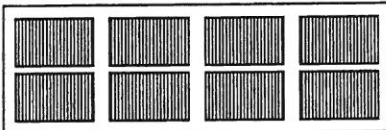
The wall sleeve is insulated on the top and sides and will fit all Trane PTAC units. Wall sleeves are an industry standard size of 13 $\frac{3}{4}$ " D x 42" W x 16 $\frac{1}{16}$ " H. In order to allow for early installation during construction, wall sleeves are available to ship separately.

Extended Wall Sleeves

Extended wall sleeves are industry standard size of 18" D x 42" W x 16 $\frac{1}{16}$ " H or 24" D x 42" W x 16 $\frac{1}{16}$ " H.

Outdoor Grilles

Outdoor grilles are available in a stamped aluminum grille with vertical louvers, an anodized aluminum horizontal louver architectural grille, and a horizontal louver architectural grille painted in a soft dove, dark bronze or a special color.

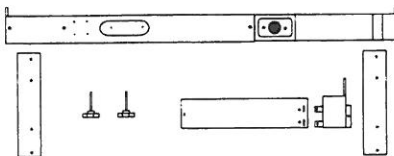


Leveling Legs Kit

Leveling legs attach easily to the wall sleeve for support and accurate unit leveling on units without subbases. Adjustable from 2 $\frac{5}{8}$ " to 5 $\frac{1}{4}$ ".

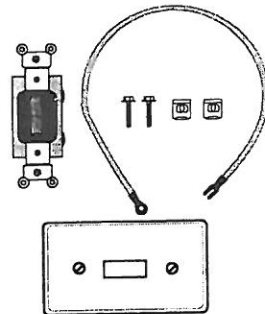
Subbases

Subbases are prewired to facilitate field electrical connections and include a NEMA 6 or 7 configuration electrical receptacle. The subbases include two leveling legs for sleeve support and accurate unit leveling during installation. The subbase attaches to the wall sleeve and provides a concealed cord path to the chassis and a concealed plug connection. It is available with both 20 and 30 amp receptacles in both 230/208 and 265-volt combinations.



Power Switch

The Power Switch provides an on/off switch which can be installed in the subbase accessory.



Circuit Breaker Kit

The Circuit Breaker Kit is available in 15, 20 and 30 amp for 230/208-volt units. Check local codes for use of the circuit breaker, both for circuit protection and as a means of disconnect.

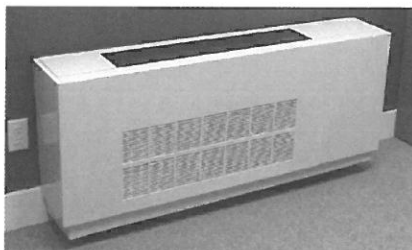
Hard-Wire Junction Box Kit

This kit provides for easy electrical connection when permanent wiring is required. It provides convenient space to make an electrical connection to the building wiring and flexible conduit with wires and connectors to make connection to the chassis. Hard-wire kit must be used on 265 volt units if subbases are not used.



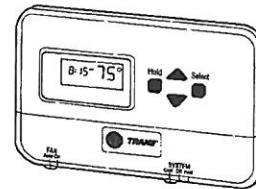
Hydronic Heat Kit

The hydronic heat kit is a field-installed package that can attach to air conditioners to provide central system hot water or steam heat capable units. The units retain complete service access with the kit installed.



Remote/Wall Thermostats

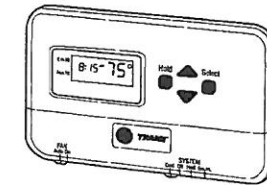
The following thermostats are available for remote temperature control of the PTAC.



Programmable Thermostats

Electric Heat

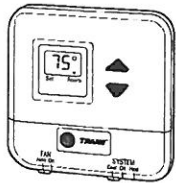
- TAYSTAT340
- 1 Heat (Electric)/1 Cool
- Heat/Off/Cool System Switch
- Power Stealing 4 Wire
- 5/2 Programmable
- Auto/On Fan Switch
- Manual Changeover
- Super Cap Continues Clock for an Average of 30 Minutes
- Programming Stored In Permanent "E-PROM" Memory
- No Batteries Necessary
- Adjustable Heating Cycle Rate



Heat Pump

- TAYSTAT540
- 2 Heat/1 Cool – Heat Pump
- Heat/Off/Cool Emergency Heat System Switch
- 5/2 Programmable
- Auto/On Fan Switch
- Super Cap Continues Clock for an Average of 30 Minutes
- Programming Stored In Permanent "E-PROM" Memory
- No Batteries Necessary

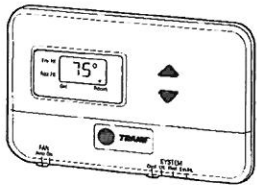
Accessories



Non-Programmable Thermostats

Electric Heat

- TAYSTAT371
- 1 Heat (Electric)/1 Cool
- Power Stealing 4 wire
- Heat/Off/Cool System Switch
- Auto/On Fan Switch
- Manual Changeover
- Digital Display
- No Batteries Necessary
- Permanent Temperature Setting Retention
- Adjustable Heating Cycle Rate

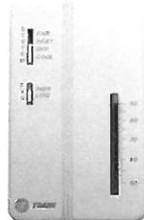


Heat Pump

- TAYSTAT570
- 2 Heat/1 Cool Heat Pump
- Heat/Off/Cool/Emergency Heat System Switch
- Auto/On Fan Switch
- Manual Changeover
- Digital Display
- No Batteries Necessary
- Permanent Temperature Setting Retention
- Adjustable 2nd Stage Heating Cycle Rate

Wiring Kit

A wiring kit is needed for all accessories that will need to be connected to the control board. This includes remote thermostats, Trane Zone Sensors, occupancy sensor, door switch and remote transfer fans.



Trane Zone Sensor

The Trane Zone Sensor allows for inexpensive temperature sensing on an internal wall for more accurate temperature control.

- 1 Heat/1 Cool
- Manual Changeover
- Fan/Heat/Off/Cool Switch
- High/Low Fan Switch
- Linear Setpoint Lever

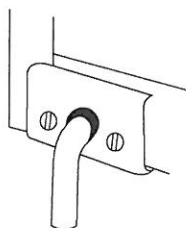
Condensate Disposal Pump Kit — Heat Pump Only

The internal condensate pump serves as an effective means for disposing of condensate generated during heat pump operation by transferring it to the indoor coil. The warm coil surface and the warm room air help in evaporation of the condensate while adding humidity to the room. As with any equipment of this type, the addition of this kit will decrease the sensible heating capacity of the unit. This kit is not intended for use in seacoast or corrosive environments.

Note: Under extreme high humidity conditions, the internal condensate pump may not be able to dispose of all the condensate produced, and condensate would then drip from the outside of the wall sleeve. If this condensation is unacceptable, then a drain system (including factory approved drain kit for the wall sleeve) should be installed.

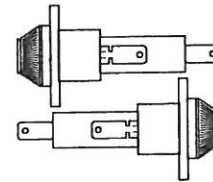
Condensate Drain Kit

This kit attaches to the wall sleeve base pan for controlled internal or external disposal of condensate and defrost water.



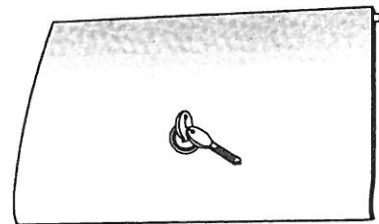
Fuse Holder Kit

Cartridge-style fuses can be installed in the fuse holder for use in the subbase or chassis. It is available in 15, 20 and 30 amp.



Control Cover Key Lock

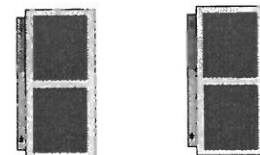
The installation of Trane's security key locks helps prevent tampering of the controls used to set temperature and heating and cooling functions. Locks are available for all PTAC models.



Condenser Air Baffle Kit

The condenser baffle kit is required when replacing an existing packaged terminal unit and/or the outdoor grille is not made by Trane. These baffles are required to deflect discharge air away from the inlet, preventing recirculation of hot condenser air.

The kit includes an air deflection baffle. The deflector directs the air in toward the center and away from the inlet to prevent recirculation of the hot condenser air. This kit is *not* to be used when the outdoor grille is provided by Trane.





Performance Data

Table PD-1 — Cooling Performance — Air Conditioner*

Model Type	Air Conditioner														
Model No.	PTED 07				PTED 09				PTED 12				PTED 15		
Voltage (V)	115	230	208	265	115	230	208	265	115	230	208	265	230	208	265
Cooling Capacity (Btu/h)	7,200	7,200	7,000	7,600	9,300	9,300	9,000	9,300	12,000	12,000	11,700	12,000	14,600	14,300	14,600
Cooling Amps (A)	5.3	2.6	2.8	2.4	7.3	3.6	3.9	3.2	9.7	5.2	4.8	4.2	6.5	7.1	5.7
Cooling Power (Watts)	590	575	560	625	810	810	785	810	1,070	1,070	1,045	1,070	1,430	1,400	1,460
EER (Btu/h/Watt•Hrs)	12.2	12.5	12.5	12.2	11.5	11.5	11.5	11.5	11.2	11.2	11.2	11.2	10.2	10.2	10.0
Indoor CFM (Wet Coil) @ 0.3 ESP															
High	210	215	185	210	245	260	230	245	315	330	300	315	355	315	335
Low	170	175	145	170	200	220	180	200	275	290	290	275	315	275	295
Indoor CFM (Dry Coil) @ 0.3 ESP															
High	235	240	210	235	265	250	250	265	335	350	320	335	390	350	370
Low	195	200	170	195	225	210	210	225	295	310	280	295	350	310	330
Ventilated Air, cfm (fan only)	70	70	70	70	70	70	70	70	80	80	80	80	80	80	80
Dehumidification (Pints/Hr.)	2.0	2.0	2.0	2.0	2.6	2.6	2.6	2.6	3.6	3.6	3.6	3.6	4.5	4.5	4.5
Net Weight (approximate lbs.)	91	91	91	92	92	92	92	92	98	98	98	99	106	106	107
Shipping Weight (approximated lbs.)	102	102	102	103	103	103	103	103	109	109	109	110	117	117	118

*See Table EP-1 for Electric Heat Performance Data.

*See Table EP-2 for Hydronic Heat Performance Data.

Table PD-2 — Cooling Performance — Heat Pump with Electric Heat Models

Model Type	Heat Pumps											
Model No.	PTHD 07			PTHD 09			PTHD 12			PTHD 15		
Voltage	230	208	265	230	208	265	230	208	265	230	208	265
Cooling Capacity (Btu/h)	7,600	7,300	7,600	9,300	9,000	9,300	12,000	11,700	12,000	14,100	14,000	14,100
Cooling Amps (A)	2.8	3.0	2.4	3.8	4.1	3.2	5.1	5.6	4.4	7.1	6.5	5.7
Cooling Power (Watts)	625	600	625	830	805	830	1,120	1,095	1,120	1,455	1,445	1,470
EER (Btu/h/Watt•Hrs)	12.2	12.2	12.2	11.2	11.2	11.2	11.2	11.2	11.2	9.7	9.7	9.6
Indoor CFM (Wet Coil) @ 0.3 ESP												
High	225	195	225	270	240	270	340	310	340	355	315	355
Low	185	155	185	230	190	230	300	270	300	315	275	315
Indoor CFM (Dry Coil) @ 0.3 ESP												
High	250	220	250	290	260	290	360	330	360	390	350	390
Low	210	180	210	250	220	250	330	290	320	350	310	350
Ventilated Air, cfm (fan only)	70	70	70	70	70	70	80	80	80	80	80	80
Dehumidification (Pints/Hr.)	2.0	2.0	2.0	2.6	2.6	2.6	3.6	3.6	3.6	4.5	4.5	4.5
Net Weight (approximate lbs.)	91	91	92	98	98	99	99	99	99	107	107	107
Shipping Weight (approximated lbs.)	102	102	103	109	102	110	110	110	110	118	118	118

Notes:

- All 265 volt models must use Trane's subbase or Trane's hard-wire junction box kit.
- Minimum branch circuit ampacity ratings conform to the National Electric Code. However, local codes should apply.
- Minimum voltage on 208/230 volt models is 197 volts; maximum is 253 volts. Minimum voltage on 265 volt models is 238.5 volts; maximum is 291.5 volts.
- Overcurrent protection for all units without electric heaters is 15 amps. Overcurrent protection on 265 volt models must be cartridge-style time delay fuses (included and factory installed on Trane chassis). Note: All heat pump units must have electric coils.
- Minimum operating ambient = 45°F.
- Certified in accordance with the Unitary Air-Conditioner Equipment certification program, which is based on ARI standard 310/380.

EER — Energy Efficiency Ratio per American Refrigeration Institute (ARI) Test Procedures.

COP — Coefficient of Performance per ARI Test Procedures.

ESP — External Static Pressure



Performance Data

Table PD-3 — Heat Pump Reverse Cycle Heating Capacity (Btu)

Model No. ¹	PTHD07			PTHD09			PTHD12			PTHD15			
Voltage ³	230	208	265	230	208	265	230	208	265	230	208	265	
Heating Capacity (Btu/h)	6,400	6,200	6,400	8,400	8,200	8,400	11,200	10,900	11,200	13,500	13,300	13,500	
Heating Amps (A)	2.4	2.6	2.4	3.1	3.4	2.6	3.1	3.4	3.4	5.5	6.0	4.8	
Heating Power (Watts)	636	520	535	685	670	685	965	940	965	1,235	1,210	1,235	
COP (W/W)	3.5	3.5	3.5	3.6	3.6	3.6	3.4	3.4	3.4	3.2	3.2	3.2	
Indoor CFM (Wet Coil) @ 0.3 ESP													
High	225	195	225	270	240	270	340	310	340	355	315	355	
Low	185	155	185	230	190	230	300	270	300	315	275	315	
Indoor CFM (Dry Coil) @ 0.3 ESP													
High	250	220	250	290	260	290	360	330	360	390	350	390	
Low	210	180	210	250	220	250	330	290	320	350	310	350	
Heating Btuh													
°F													
Outdoor Ambient	62	7200	7400	7400	9600	9700	9700	12800	13000	13000	15700	15800	15800
	57	6900	7100	7100	9300	9600	9600	12500	12800	12800	15000	15200	15200
	52	6500	6700	6700	8700	9000	9000	11700	12000	12000	14200	14400	14400
Rating Point	47	6200	6400	6400	8200	8400	8400	10900	11200	11200	13300	13500	13500
	42	5900	6100	6100	7700	7900	7900	10200	10500	10500	12500	12700	12700
	37	5600	5800	5800	7200	7400	7400	9500	9700	9700	11700	11900	11900
	32	5300	5500	5500	6700	6900	6900	9600	8900	8900	10800	11000	11000
	27	5000	5200	5200	6200	6300	6300	7900	8200	8200	10000	10200	10200
	24	4800	5000	5000	5800	6000	6000	7500	7800	7800	9500	9700	9700
Watts													
Outdoor Ambient	62	555	565	565	725	740	740	1034	1060	1060	1300	1325	1325
	57	550	560	560	715	730	730	1010	1030	1030	1275	1305	1305
	52	530	540	540	695	710	710	980	1000	1000	1245	1270	1270
Rating Point	47	525	535	535	670	685	685	945	965	965	1210	1235	1235
	42	505	525	525	650	665	665	910	930	930	1175	1200	1200
	37	500	510	510	630	645	645	880	900	900	1140	1165	1165
	32	490	500	500	615	630	630	830	850	850	1100	1120	1120
	27	480	495	495	585	600	600	790	810	810	1055	1080	1080
	24	475	490	490	570	585	585	765	785	785	1045	1070	1070

Notes:

1. All 265 volt models must use Trane's subbase or Trane's hard-wire junction box kit.
2. Heating capacity and efficiency is based on unit operation without condensate pump. Unit automatically switches to electric heat at 25°F outdoor coil temperature. Depending upon relative humidity conditions, this will occur at approximately 35°F outdoor ambient temperature.



Performance Data

Table PD-4 — Air Conditioners

Room Air		Model							
Dry Bulb	Wet Bulb	PTED0701	PTED0702	PTED0901	PTED0902	PTED1201	PTED1202	PTED1501	PTED1502
Temperature Across Indoor Coil (ΔT)		Temperature Across Indoor Coil (ΔT)		Temperature Across Indoor Coil (ΔT)		Temperature Across Indoor Coil (ΔT)		Temperature Across Indoor Coil (ΔT)	
°F		Min	Max	Min	Max	Min	Max	Min	Max
Rating Btu/h		7000	7600	9000	9300	11700	12000	14300	14600
Rating CFM		185	225	230	260	300	330	315	355
90	85	1	3	2	6	1	5	1	4
	80	8	13	11	14	9	13	8	12
	75	19	22	19	22	18	22	16	20
	70	30	33	28	30	26	30	25	27
85	80	4	9	7	11	5	10	5	8
	75	14	19	15	18	13	18	12	16
	70	23	27	23	25	21	25	20	23
	65	34	36	31	33	29	33	28	30
80	75	9	14	11	14	9	13	8	12
	70	18	21	18	20	15	20	15	18
	65	26	29	24	27	23	26	21	24
	60	35	36	32	33	29	33	29	30
75	70	12	16	13	16	10	15	10	14
	65	18	22	18	21	15	20	15	19
	60	25	28	23	26	21	25	20	24
	55	31	34	28	31	26	30	26	28
70	65	12	15	12	14	9	13	9	13
	60	17	20	16	18	13	17	13	17
	55	22	24	20	22	18	21	17	21

Table PD-5 — Heat Pumps

Room Air		Model							
Dry Bulb	Wet Bulb	PTHD0701	PTHD0702	PTHD0901	PTHD0902	PTHD1201	PTHD1202	PTHD1501	PTHD1502
Temperature Across Indoor Coil (ΔT)		Temperature Across Indoor Coil (ΔT)		Temperature Across Indoor Coil (ΔT)		Temperature Across Indoor Coil (ΔT)		Temperature Across Indoor Coil (ΔT)	
°F		Min	Max	Min	Max	Min	Max	Min	Max
Rating Btu/h		7300	7600	9300	9600	12300	12600	14300	14600
Rating CFM		195	225	240	270	310	340	315	355
90	85	1	3	2	6	1	5	1	4
	80	8	13	11	15	10	13	8	12
	75	19	22	19	22	18	22	17	20
	70	30	33	29	30	26	30	25	28
85	80	4	9	7	11	5	10	5	9
	75	14	19	15	18	14	18	12	16
	70	23	27	23	25	21	25	21	23
	65	33	36	31	33	30	33	28	31
80	75	9	14	11	15	10	13	8	12
	70	18	21	18	20	16	20	16	18
	65	26	29	24	27	23	26	22	25
	60	35	36	32	33	30	33	29	31
75	70	12	16	13	16	11	15	10	14
	65	18	22	18	21	16	20	16	19
	60	24	28	23	26	21	25	21	24
	55	31	34	29	31	26	30	26	29
70	65	12	15	12	15	10	13	9	13
	60	17	20	16	18	14	17	13	17
	55	22	24	20	22	18	21	18	21



Performance Data

Table PD-6 — Heating Capacity — Water

		Heating Capacity (Btu) Hot Water												
		7000 & 9000 Btu Units				12000 Btu Units				15000 Btu Units				
Pressure Drop (psig)		200°F EWT		180°F EWT		200°F EWT		180°F EWT		200°F EWT		180°F EWT		
gpm	Coil	2-Way Valve	Fan Speed		Fan Speed		Fan Speed		Fan Speed		Fan Speed		Fan Speed	
			Hi	Lo	Hi	Lo	Hi	Lo	Hi	Lo	Hi	Lo	Hi	Lo
1.00	0.93	0.16	14.9	13.4	12.6	11.2	16.9	14.4	14.3	12.2	17.9	15.5	15.0	13.3
1.13	1.03	0.20	15.2	13.7	12.9	11.5	17.4	14.7	14.6	12.4	18.3	16.0	15.4	13.7
1.25	1.14	0.25	15.5	14.0	13.1	11.7	17.7	15.0	14.9	12.6	18.7	16.3	15.7	14.0
1.38	1.26	0.30	15.8	14.3	13.4	11.9	18.1	15.2	15.2	12.9	19.0	16.7	16.0	14.3
1.50	1.40	0.36	16.0	14.5	13.6	12.1	18.4	15.5	15.5	13.1	19.4	17.0	16.3	14.6
1.63	1.55	0.43	*16.2	14.7	13.8	12.3	18.7	15.7	15.7	13.2	19.7	17.3	16.6	14.8
1.75	1.71	0.49	16.4	14.9	13.9	12.5	19.0	15.8	16.0	13.4	19.9	17.5	16.8	15.0
1.88	1.89	0.57	16.6	15.1	14.1	12.6	19.2	16.0	16.2	13.5	20.2	17.7	17.0	15.2
2.00	2.10	0.64	16.8	15.2	14.2	12.7	*19.3	16.1	16.2	13.6	20.4	17.8	17.2	15.3
2.13	2.32	0.73	16.9	15.3	14.3	12.8	19.6	16.3	16.5	13.7	*20.4	18.0	17.2	15.4
2.25	2.57	0.81	17.0	15.4	14.4	12.9	19.7	16.3	16.6	13.8	20.7	18.0	17.5	15.5
2.38	2.84	0.91	17.1	15.4	14.5	12.9	19.8	16.4	16.7	13.9	20.9	18.1	17.6	15.5
2.50	3.14	1.00	17.2	15.5	14.5	12.9	19.9	16.5	16.8	13.9	21.0	18.1	17.7	15.5
2.63	3.48	1.11	17.2	15.5	14.6	12.9	20.0	16.5	16.8	13.9	21.0	18.1	17.7	15.5
2.75	3.85	1.21	17.2	15.5	14.6	13.0	20.0	16.6	16.8	14.0	21.1	18.1	17.7	15.5

*Based on ARI Rating Conditions of 70°F Entering Air Temp., 200°F Entering Water Temp and 180°F Leaving Water Temp. Max. Water Temperature 200°F Max. Water Pressure - 200 psig.

Table PD-7 — Heating Capacity — Steam

Steam psig	7,000 & 9,000 Btu Units		12,000 Btu Units		15,000 Btu Units	
	Fan Speed		Fan Speed		Fan Speed	
	High	Low	High	Low	High	Low
2**	20,200	17,800	21,700	18,300	23,700	21,000
3	20,700	18,300	22,100	19,000	25,700	21,900
4	20,800	18,500	22,800	19,300	26,300	23,77

Maximum steam pressure 5 psig

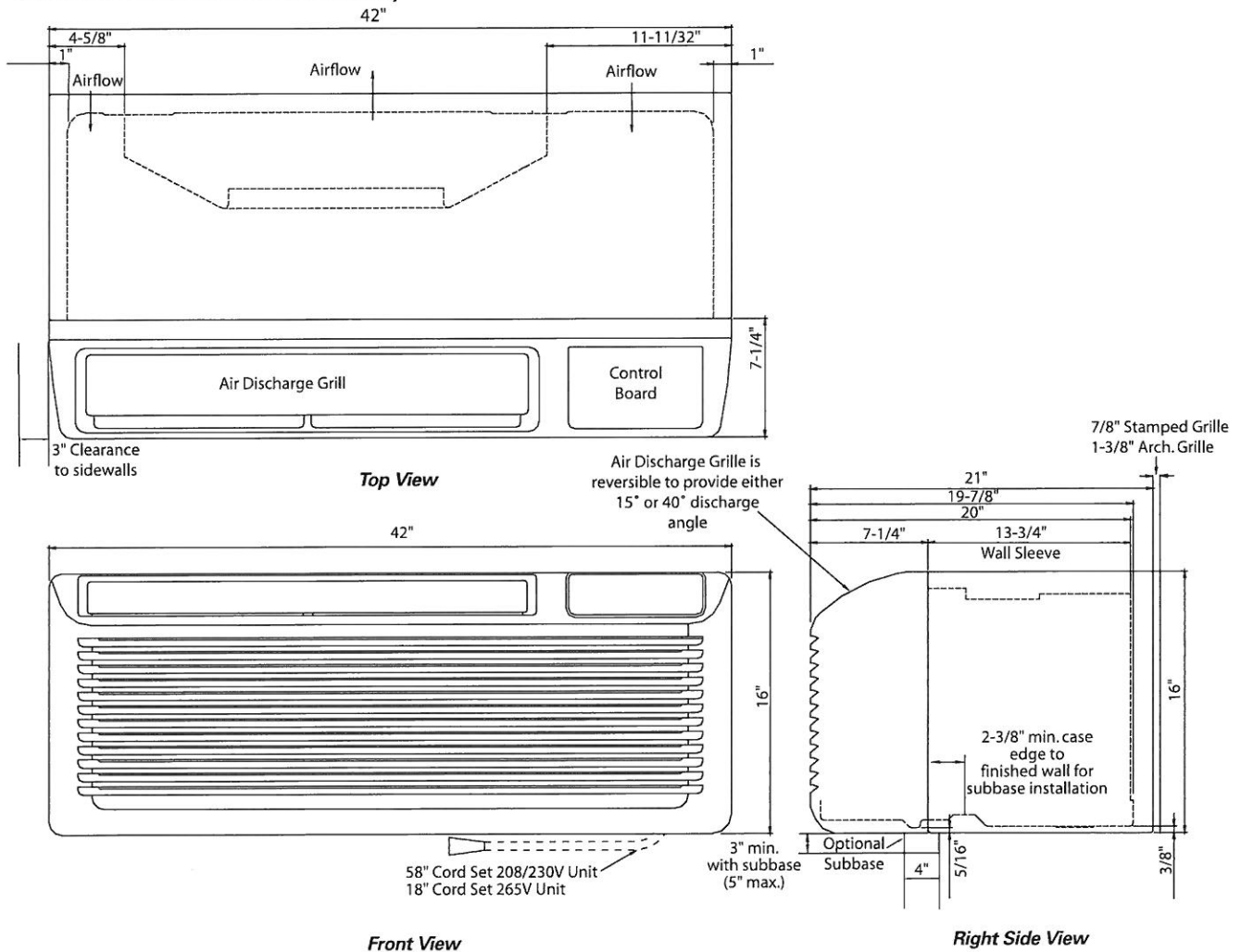
**Based on ARI rating conditions of 70°F entering air temperature and 2 psig steam pressure.

Table PD-8 — Hydronic Water Valve Pressure Drop

Water GPM	2-Way Valve	3-Way Valve Bypass	3-Way Valve Service	3-Way Valve Bypass and Service
	Pressure Drop (psig)	Pressure Drop (psig)	Pressure Drop (psig)	Pressure Drop (psig)
1.00	0.16	0.11	0.04	0.06
1.13	0.20	0.14	0.05	0.08
1.25	0.25	0.17	0.06	0.10
1.38	0.30	0.21	0.08	0.12
1.50	0.36	0.25	0.09	0.14
1.63	0.43	0.30	0.11	0.17
1.75	0.49	0.34	0.12	0.19
1.88	0.57	0.39	0.14	0.22
2.00	0.64	0.44	0.16	0.25
2.13	0.73	0.50	0.18	0.28
2.25	0.81	0.56	0.20	0.32
2.38	0.91	0.63	0.23	0.35
2.50	1.00	0.69	0.25	0.39
2.63	1.11	0.77	0.28	0.43
2.75	1.21	0.84	0.30	0.47
	CV=2.5	CV=3.0	CV=5.0	CV=4.0

Dimensions

Unit with Wall Sleeve and Subbase Accessory

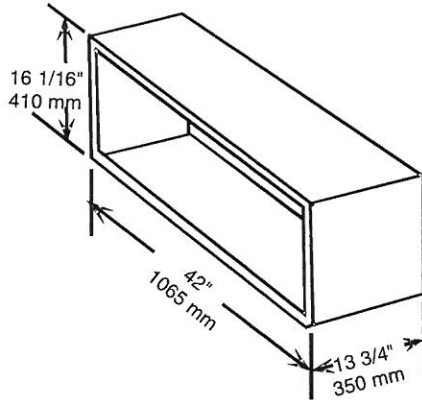


Notes:

1. Allow a minimum of 3 1/4" clearance between cabinet and floor to permit installation of options subbase.
2. Allow a minimum of 3" clearance between cabinet and side walls to permit front panel removal.
3. Drain can be mounted either right side, left side, or bottom of sleeve. Bottom drain to be located by customer. Drain kit shipped separate.
4. Unit provides 20 percent outside air.
5. Detachable cord ships attached to unit. Cord can be removed for direct attachment of building wiring or wiring from junction box kit.
6. For U.S. approval — 265 volt units and units with duct packages must have permanent wiring connection. Permanent wiring requirement can be met either by supplying a full length subbase for concealed cord connection or by direct wiring with junction box kit.
7. Control door provided on standard unit for access to controls.

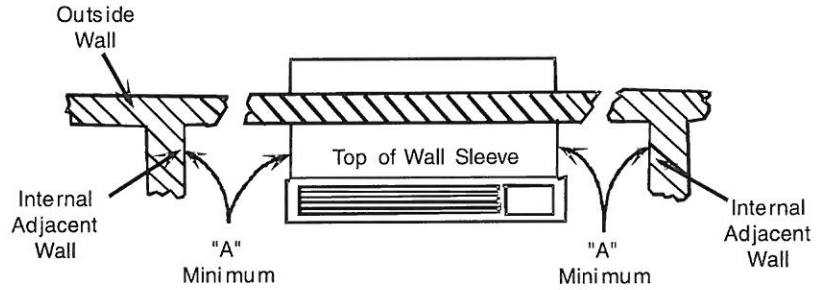
Dimensions

Wall Sleeve Dimensions



Wall Receptacle Within 58" From Bottom Right Side Corner on 115v, 208/230 VAC Units Only.

Minimum Unit Clearance



*Extended wall sleeves available in 18" and 24" depth.

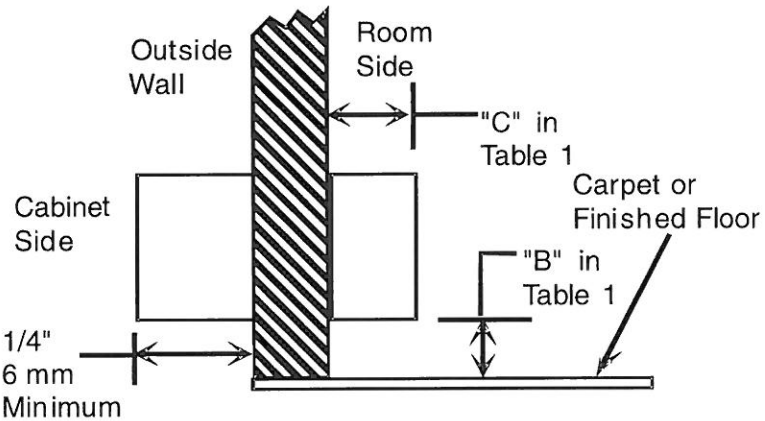


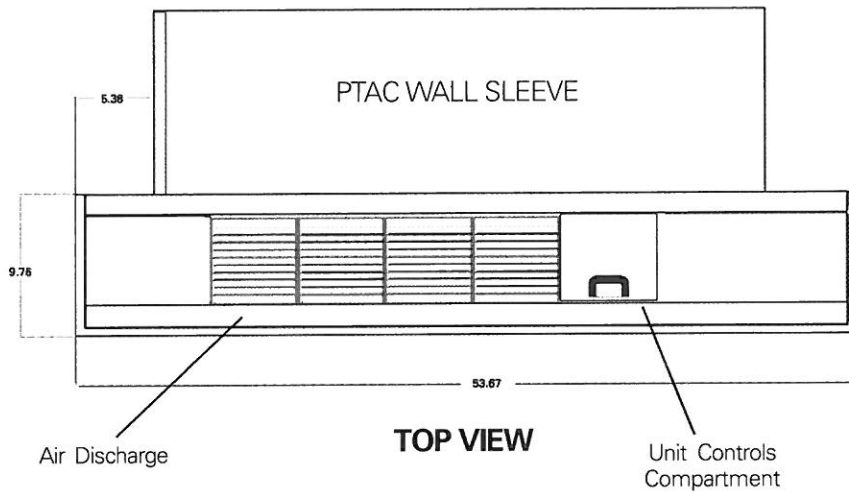
Table 1 – Minimum Clearances and Projections

Option	Minimum Clearances				Minimum Projection	
	A		B		C	
	Inches	mm	Inches	mm	Inches	mm
Wall Sleeve Only	3	75	0	0	0	0
Subbase Kit	3	75	3 1/4	85	2 3/4	70
Leveling Legs Kit	3	75	3	75	2	50
Hydronic Heat Kit	9	230	0 to 3-1/4 ³	0 to 85 ³	3 ²	75 ²
Drain Kit	3	75	0 ¹	0 ¹	0	0
Hardware Kit	3	75	1	25	0	0

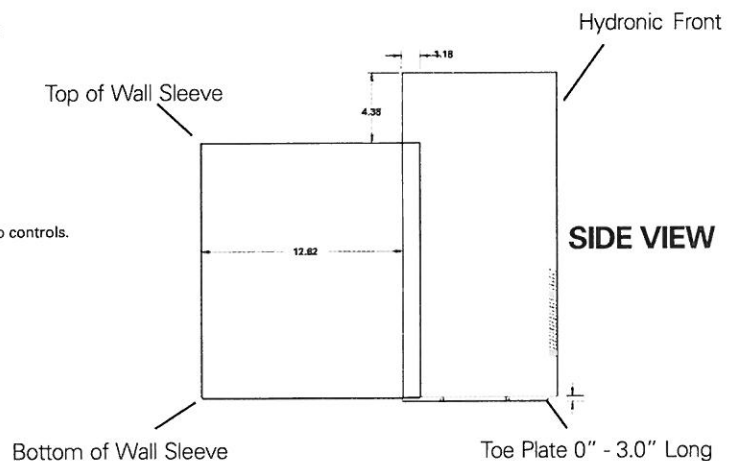
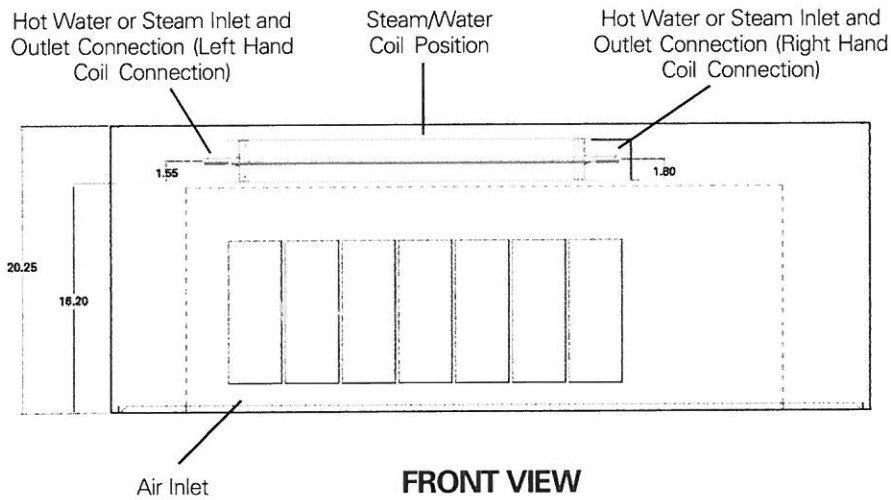
Notes:

- If inside mounted then B = 1-1/2 inches (40 mm).
- To achieve a flush fit between the hydronic front and the finished wall, Dimension "C" must be between 3" and 3-1/8". If this dimension is more than 3-1/8" there will be a gap between the front and the wall. This gap could permit occupant access to hydronic lines or other dangerous parts.
- This dimension can be from 0 to 3-1/4", but cannot exceed 3-1/4". If this dimension exceeds 3-1/4", the skirt around the front will not reach the floor.

Dimensions



NOTE: Wall sleeve must extend exactly 3 inches from finished interior wall.



Notes:

1. This kit completely encloses all plumbing and coils, but still allows easy access to controls.
2. The chassis can slide out for easy service without removing hydronic plumbing.
3. The kit features left or right-hand piping.
4. Unit retains complete service access with kit installed.



Mechanical Specifications

General

Packaged Terminal Air Conditioners shall be of the sizes and capacities shown on the schedule and in the specifications. The units shall be located as shown on the drawings and each shall consist of a chassis, wall sleeve, outdoor grille, and subbase if specified.

Units shall ship with a plastic front cover with the exception of hydronic models. Hydronic models require the installation of a hot water or steam kit that will include a metallic front cover made of galvanized steel.

Units shall ship with a polycarbonate double sloped drain pan.

Units shall be approved and listed by cULus. Unit capacity and efficiency performance shall be certified in accordance with ARI standard 310/380-1993. Unit dimensions shall not exceed 42" wide and 16 1/6" high with room cabinet in place.

Units shall exceed ASHRAE Standard 90.1 for energy efficiency.

Unit shall be tested for conformance to ASTM water infiltration specification ASTM 331-00, which assures no water infiltration when tested at eight inches of rain per hour at 63 mph wind for 15 minutes.

Units shall be designed to operate on 115, 208/230, or 265 volts, 60 Hz., single phase power.

Unit chassis shall include an electrical power cord installed by the manufacturer to assure proper NEMA 6 (208/230V) and NEMA 7 (265V) configuration and UL approved length. Cord shall be compatible with the unit's required voltage and ampacity in conformance with National Electrical Code (NEC) and local codes.

Heating/Cooling Chassis

The chassis shall consist of the following sections and components:

Chassis shall be slide-in, plug-in type; ready to operate after installation.

Hermetically-sealed refrigerant system with external vibration isolated rotary-type compressor, condenser and evaporator coils and capillary refrigerant control.

The airflow system shall consist of one permanent split-capacitor, direct-drive, two-speed fan motor for the outdoor fan, and a separate permanent split-capacitor, two-speed fan motor for the indoor fan. Outdoor fan shall be multi-blade axial-flow design made with five injection molded plastic fan blades with slinger ring. Indoor fan shall be a cylindrical cross-flow blower fan to assure an evenly distributed air flow. All motors on the exterior side of the weather barrier shall be of an enclosed design to reduce the effects of moisture and corrosion.

Units, except hydronic models, shall have a resistance heater to provide specified heat output.

Condenser and evaporator coils to be constructed of high-efficiency, aluminum-enhanced louvered fins and grooved copper tubing necessary to achieve EER and COP rating of the unit.

Adjustable-closing fresh air vent, with vent door secured for shipping, and optional securing in the closed position, with a concealed manual control. The vent control shall allow 70 CFM (7,000 and 9,000 Btu units) or 80 CFM (12,000 and 15,000 Btu units) of fresh air to be drawn into the room when the unit's blower is operating.

Heat Pump Chassis

Heat pump units shall automatically change from heat pump operation to electric resistance heat when heat pump operation is unable to produce sufficient heat to maintain room temperature within 2.5° F of thermostat setpoint, or when the outdoor air switch-over temperature falls below 20° F.

Heat pump unit shall automatically begin an active defrost cycle when the outdoor coil temperature drops below 21°F. Defrosting shall be accomplished by active defrost with unit automatically reinitiating heat pump operation when outdoor coil reaches 54°F or six minutes has elapsed after defrost has been initiated.



Mechanical Specifications

Front Panel

Units shall have a matching, easily removable, textured finish, wrap-around room cabinet molded of High Impact Polystyrene (HIPS) to resist corrosion and damage. Front panel shall have a sloped discharge so that obstructions are not placed on the unit. Cabinet shall have a low profile depth of 7 1/4" to minimize the unit's impact on room space. The front panel shall have the following features:

Adjustable indoor discharge air louvers that provide a 15 degree off vertical air pattern with an alternate position to provide a 40 degree off vertical air pattern. Louvers will be a polycarbonate material to resist bending, cracking, rusting and corrosion.

Air discharge area accessible for cleaning without tools when room front is removed.

Filtration

Unit shall have indoor and outdoor air filters. Filters shall be washable polypropylene mesh. Indoor filters shall be accessible without requiring removal of room cabinet from chassis.

Controls

Unit controls shall be easily accessible for selection of unit operation mode and thermostat setting. Control knobs shall clearly indicate the room setpoint temperature and operation range. The unit operational mode switch shall include 6 settings: low fan, high fan, low cool, high cool, low heat, and high heat.

Controls shall utilize solid state microprocessor based controller to allow the following operations:

Freeze protection that automatically activates the electric resistance heater and fan motor to warm and circulate indoor air to help prevent damage due to freezing temperatures. Freeze protection shall operate as long as unit is connected to powered electrical circuit.

Remote Thermostat compatibility with 4 or 5 wire remote thermostats.

Unit shall be compatible with the Trane Zone Sensor. The Trane Zone Sensor allows remote temperature sensing while maintaining all unit control functionality.

Connections to interface with a transfer fan to move air into an adjacent room.

Connections to interface with occupancy sensors and a door switch. Unit shall setback the room temperature 4 degrees when in occupied standby mode.

Electronic temperature limiting to limit maximum and minimum temperatures. Minimum cooling range shall be capable of being set between 50° F and 65° F, and heating range between 75° F and 90° F.

A fan cycle switch to permit the following four independently selectable modes for heating and cooling fan operation; 1) fan cycle operation on/off, 2) continuous fan operation on selected fan speed except when mode switch is in off position or front desk control is enabled, 3) continuous fan operation on selected fan speed even when mode switch is in off position. Front desk control will override if enabled, 4) continuous fan operation on selected speed regardless of mode switch or front desk control.

Compatibility with 2 wire Front Desk Control systems.

The unit shall be capable of on board diagnostics. A LED shall flash a code displaying 1 of 9 specific failure conditions, which include: compressor failure, setpoint failure, thermostat wiring failure, indoor air thermistor failure, indoor coil thermistor failure, outdoor air thermistor failure (PTHD only), and outdoor coil thermistor failure (PTHD only).

Warranty

Standard Warranty

Full 1st Year Warranty

Trane will repair or replace any part which proves to be defective due to workmanship or materials, free of charge. This includes parts and labor.

Full 2nd - 5th Year Sealed System Warranty

Trane will repair or replace the evaporator, condenser, compressor or connecting tubing which proves to be defective due to workmanship or materials, free of charge. This includes parts and labor.

Limited 2nd - 5th Year Functional Parts Warranty

During the 2nd - 5th years, Trane will provide functional parts which prove to be defective due to workmanship or materials. Components covered are switches, solenoids, fan motors, thermistors, circuit boards, factory installed heaters, blower wheel, fan propeller, capacitors, compressor overloads and drain valves. This limited warranty does not include diagnostic time, labor or any transportation and/or reinstallation charges that may be required.



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

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Trane has a policy of continuous product and product data improvement and reserves the right to change design and specifications without notice.