



HVAC Engineering Specifications

Digital Packaged Terminal Air Conditioners & Heat Pumps

Cooling: 7200 – 15000 Btuh

Heating: 6400 – 13500 Btuh (Reverse Cycle)

8500 – 17000 Btuh (Electric Heat)

Friedrich Models: PDE – Cooling with or without electric heat

PDH – Heat Pump with electric heat

All units shall be factory assembled, piped, wired and fully charged with R-22. All units shall be certified in accordance with ARI Standard 310 for air conditioners and ARI standard 380 for heat pumps. Units shall be UL listed and carry a UL label. All units shall be factory run-tested to check operation and be manufactured by Friedrich or equivalent.

The basic unit shall not exceed 16" high x 42" wide. Overall depth of the unit from the rear of the Friedrich wall sleeve to the front of the decorative front cover shall not exceed 21 ¼". The unit shall be designed so that room intrusion may be as little as 7 ½". Installations in walls deeper than 13 ¼" may be accomplished with the use of a wall sleeve extension (PXWE). Unit shall draw in ambient air through both sides of an outdoor architectural louver or grille measuring 42" wide x 16" high and shall exhaust air out middle portion of the louver. The architectural louver and wall sleeve shall be designed so that the louver may be installed from the inside of the building.

REFRIGERATION SYSTEM – The refrigeration system shall be hermetically sealed and consist of a rotary compressor that is externally mounted on vibration isolators no smaller than 1 ¾" dia. x 1 ½" high; condenser and evaporator coils constructed of copper tubes and aluminum plate fins; and capillaries as expansion devices. Unit shall have a fan slinger ring to increase efficiency and condensate disposal and have a drain pan capable of retaining 1 ½ gallons of condensate. A tertiary condensate removal system shall also be incorporated for back up and shall overflow through the wall sleeve and to the outside of the building as a safeguard against damage to the interior room.

AIR HANDLING SECTION – The evaporator and condenser fans shall be directly driven by a single, totally enclosed, ball bearing, permanently lubricated split capacitor, "clam-shell" style fan motor. Airflow shall be directed into the room by a single, injection molded, high-impact polystyrene discharge grille. The grille shall have openings no larger than 3/8" high x 3" wide to prevent personal injury or damage to the PTAC unit, and will be reversible to allow air to be directed upward or outward as determined by the installer.

The chassis shall have a built-in damper capable of providing at least 60 CFM of fresh air into the conditioned area. A removable fine mesh screen shall filter the incoming fresh air. There must be a provision for locking the damper closed to ensure a proper seal.

CONTROLS – Covered controls shall be accessible in a compartment at least 9" wide with the controls no deeper than 1 ¼" in the opening to facilitate easy operation of the unit.

The unit controls shall feature an LED readout that can display either room temperature or setpoint temperature. The unit shall receive input from the SMART CENTER® control panel through push buttons labeled: 'Cool', 'Heat', 'High Fan', 'Low Fan', ▲, ▼ and 'Power'. When 'Off', the unit may be put directly into cooling or heating mode by pressing the

'Cool' or 'Heat' button. The unit must have the following energy saving and convenience features built-in:

- Quiet start/stop fan delay
- Room freeze protection
- Random compressor restart
- Electronic temperature limiting
- Wireless remote control ready
- Internal diagnostics
- Service code storage
- Constant comfort room monitoring
- Instant heat heat pump mode
- Desk control terminals
- Indoor coil frost sensor
- Auxiliary fan control

The PTAC must also offer the ability to be controlled by a remote wall-mounted thermostat without additional accessories. Low voltage inputs will include: C (common), R (24V power), Y (cooling), GL (fan low), GH (fan high), W (heat) and B (reversing valve on PDH heat pumps only).

Other controls accessible without removal of the chassis shall include fan cycle switch, fresh air vent control and emergency heat override switch (heat pump only).

GENERAL CONSTRUCTION – The wall sleeve shall be constructed of 18-gauge Galvanized zinc-coated steel. It shall be prepared by a process where it is zinc phosphate pretreated and sealed with a chromate rinse, then powder coated with a polyester finish and oven cured for durability. The sleeve shall be shipped with a protective weatherboard and a structural center support, and be insulated for sound absorption and thermal efficiency. The grille or louver shall be shipped separately and made from stamped or extruded anodized aluminum. All louvers shall be in the horizontal plane.

The front panel shall lock to the chassis by means of two factory-supplied thumbscrews to prevent tampering. The front panel will feature a contoured discharge with no sharp corners. The air filters shall be reusable and be accessible without removal of the front cover. The filters will feature an antimicrobial coating to prevent mold and bacterial growth.

All 265V units shall possess an integral, over-current time-delay protective device.

The unit shall have a corrosion-resistant fan, fan shroud and drain pan for corrosion protection and to prevent rust on the side of the building below the outdoor louver.

WARRANTY – The warranty is one year on all parts and 5 years on the sealed system including compressor, indoor and outdoor coils and refrigerant tubing.

SEACOAST PROTECTION (optional) – As an option, the PTAC chassis may be ordered with an anionic acrylic coated outdoor coil. All units are produced with galvanized steel components and aluminum endplates on the outdoor coil as standard to provide optimal service.