

PACKAGED TERMINAL HEAT PUMP (PTHP)

Maintenance Plan & Service Overview

Summary

Good maintenance ensures the longevity and efficiency of heat pump equipment and the comfort and safety of residents. This document provides guidance on a PTHP Maintenance Plan, including bi-annual (routine) and annual maintenance recommendations, and a MAINTENANCE SERVICE CHECKLIST in Appendix 1. Note that we strongly encourage performing the Annual Maintenance Check one month before warranty expiration.

FILTER CLEAN + BASIC CHECK (2X/YEAR)

Routine maintenance should be performed by building staff twice per year. If heavy buildup is observed on filters, maintenance frequency can be increased. **Important: For cleaning, use water only, no chemicals.** Many common cleaning solutions are corrosive and can cause damage to critical components.

OCCUPANT INTERVIEW

ASK OCCUPANTS HOW THE UNIT IS WORKING FOR THEM. DOCUMENT THEIR RESPONSES.

1. How do they like the system?
2. Do they have any questions or concerns?
3. Are they using other heating sources (e.g. space heaters). If so, why?
4. Do they know how to clean their filters, and are they willing to do so? If so, show them how to clean filters in between routine maintenance events to save energy.

OBSERVE CONDITION OF UNIT AND SURROUNDINGS. DOCUMENT WITH THE FOLLOWING PHOTOS.

1. Items on top of unit
2. Furniture or curtains blocking airflow
3. Scratches, dents, or loose panels
4. Scorch marks or other damage to plug, cord, or receptacle
5. Dampness or water stains below unit

VISUAL CHECKS AND DOCUMENTATION

RECORD APARTMENT NUMBER AND UNIT MODEL/SERIAL NUMBER.

RECORD CURRENT TEMPERATURE SETPOINT.

Check that control panel is fully lit and mode and temperature buttons operate correctly. Briefly check unit operation in seasonal mode (heat or cool). Check for unusual odors or noises. Note if the tenant does "set and forget" or if they turn off/or set back their units. Please advise the tenants of the following recommended settings:

1. Winter: 70-72° daytime, can be reduced by 2-4° for sleeping
2. Summer: 74-76° when occupied, and 78° degrees when away
3. When heating or cooling is not needed, turn off the system and open the windows!
4. Turn the unit off with the Power button.

PACKAGED TERMINAL HEAT PUMP (PTHP)

Maintenance Plan & Service Overview

FILTER CLEANING

DISCONNECT POWER TO UNIT.

Unplug it (plug-in) or turn off disconnect (hard-wired).

ACCESS FILTER.

Lift the grille on top of the unit to access the filter.

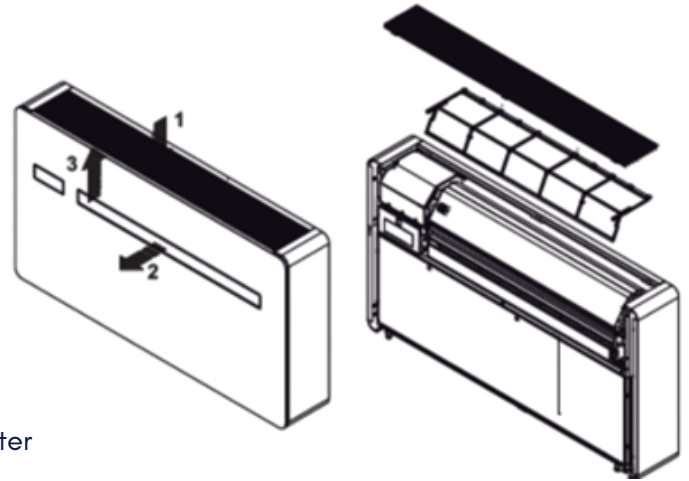
GENTLY LIFT FILTER OUT OF UNIT.

Note and document level of dirt buildup:

1 = little or no buildup

2 = Significant buildup but you can still see light through filter

3 = Heavy buildup; filter opaque



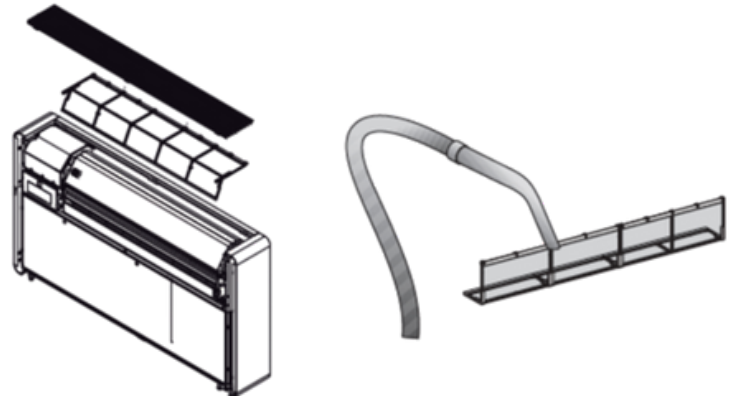
THOROUGHLY CLEAN FILTER AND GRILLE.

Use a handheld vacuum with brush attachment or rinse with water. No visible dust should remain on filter or grille. Soap, detergent, or cleaning chemicals shall not be used. Document filter condition after cleaning.

REINSTALL FILTER, MAKING SURE IT IS SNUGLY SEATED. REINSTALL GRILLE.

WIPE DOWN CABINET AND LOUVER WITH DAMP (NOT WET) PAPER TOWEL.

Important: Use water only, no chemicals. Many common cleaning solutions are corrosive and can cause damage to critical components.



RESTORE POWER TO UNIT AND TEST.

Turn unit back on and set it to high heat or cool. Check for hot/cold air and strong airflow. Check for noises or other issues.

SET UNIT BACK TO ORIGINAL SETTINGS AND COMPLETE SERVICE LOG.

Make note of any any action steps needed and clean up work area.

SPEAK TO HOMEOWNER; DISCUSS FOLLOW-UP IF NEEDED.

FILTER CLEAN + BASIC CHECK COMPLETE

PACKAGED TERMINAL HEAT PUMP (PTHP) Maintenance Plan & Service Overview

ANNUAL MAINTENANCE + COMPREHENSIVE CHECK

A more **comprehensive check** should be performed by building staff once per year **and one month prior to warranty expiration**.

PERFORM OCCUPANT INTERVIEW, VISUAL CHECKS, AND FILTER CLEANING AS DESCRIBED ABOVE.

DOUBLE CHECK THAT POWER TO UNIT IS OFF.

PUT A DROP CLOTH DOWN TO CATCH ANY DUST.

REMOVE FRONT PANEL (3) AND FRONT CLOSURE PANEL (4).

To remove the front panel, unscrew the two screws at the top.

GENTLY CLEAN DIRT AND DEBRIS FROM INDOOR COIL (7).

Use a paintbrush, vacuum brush attachment, and compressed air to gently clean the indoor coil.

Do not wash with soap or detergent.

Be careful not to bend aluminum fins. If fins are bent, carefully and gently straighten with a plastic card or fin comb.

Important: Avoid getting water on electric parts!

CLEAN ACCESSIBLE AREAS.

Clean accessible portions of indoor coil (6) and blower fan (5) and vacuum debris from inside cabinet.

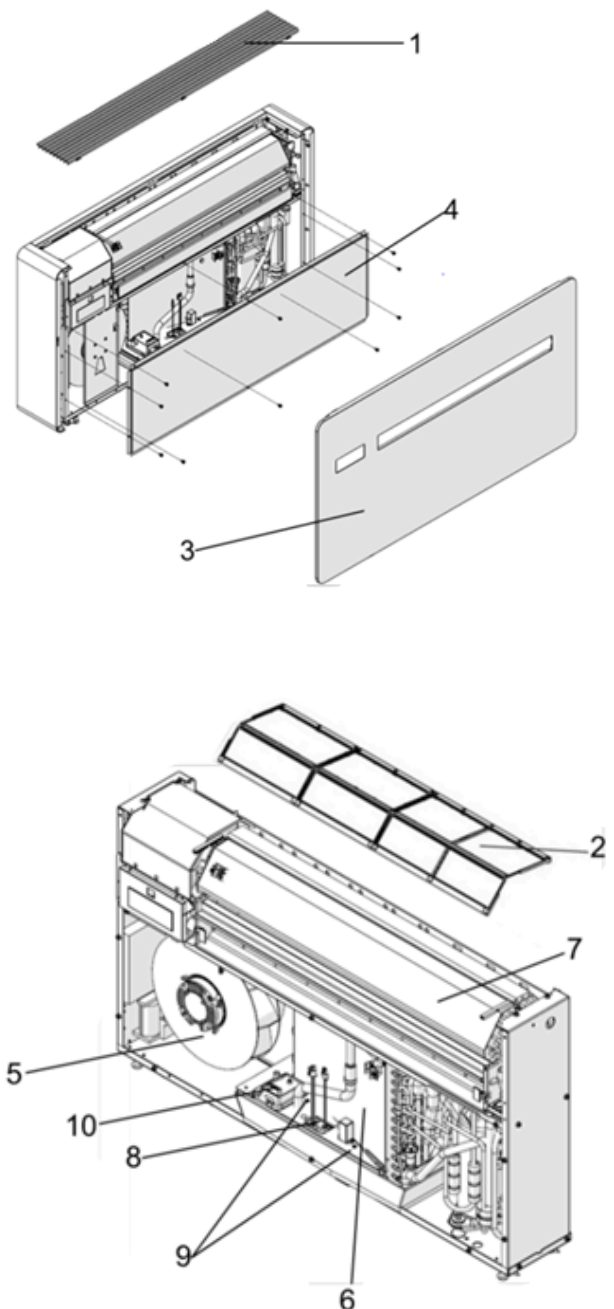
VISUALLY CHECK FOR DIRT OR DAMAGE TO FLEXIBLE CONDENSATE TUBING.

REMOVE SCREWS (9) TO OPEN LOWER CONDENSATE RESERVOIR.

Wipe reservoir clean with damp paper towel. Check that floats (8) operate freely. Close reservoir and reinstall screws.

REINSTALL FRONT CLOSURE PANEL (4).

REINSTALL FRONT COVER.



PACKAGED TERMINAL HEAT PUMP (PTHP)

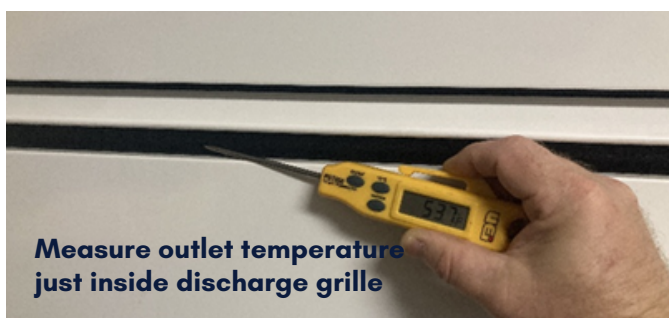
Maintenance Plan & Service Overview

RESTORE POWER TO UNIT.

Turn unit to heating or cooling mode set thermostat as high or low as it will go.

MEASURE INLET/OUTLET TEMPERATURES

Wait 5 minutes after powering back on to measure temperatures. Use a handheld digital thermometer and document. Avoid sticking probe into unit.



NOTES

Heating Mode

The minimum outlet temperatures depend on outdoor temperatures. If the outlet temperature is lower than this, additional service may be needed.

Cooling Mode

The outlet air temperature should be at least 18F cooler than the incoming air.

Outdoor temperature	Minimum heating outlet temperature
32 deg. F or lower	82 deg. F
32 deg. F or higher	90 deg. F

SET UNIT BACK TO ORIGINAL SETTINGS.

CLEAN UP WORK AREA AND REMOVE DROPCLOTH.

SPEAK TO HOMEOWNER; DISCUSS FOLLOW-UP IF NEEDED.

OUTSIDE CHECK.

From outside, check all intake/outlet louvers for damage or blockage. Clean or repair as needed.

ANNUAL MAINTENANCE + COMPREHENSIVE CHECK COMPLETE

ATTACHMENT 1

PTHP MAINTENANCE SERVICE CHECKLIST

[illegible]