



# Ductless Heat Pumps

## APPLICATIONS

- Displacing the home's heating load with a single- or multiple-head system or replacing entire heating load with multiple systems. In smaller homes, a single multi-headed system may replace entire load.
- Existing homes where plug-in electric heaters are confirmed as the primary heating system in the home.
- Single-family residential additions where the primary electric or nonelectric system's duct work has not been extended to the addition and/or where the current heating source in the addition is electric zonal.
- Only one ductless heat pump, or DHP, may be claimed per home, regardless of the number of outdoor or indoor units installed and regardless of the home's square footage.
- For whole-home centrally ducted heat pump installations a [PTCS Air-Source Heat Pump or Air Source Heat Pump Conversion without PTCS](#) is recommended.

## Specification Checklist

[Download Checklist](#)

- HSPF: Ductless or ducted mini-split must be a split-system heat pump employing an inverter-driven outdoor compressor, with inverter-driven or variable-speed indoor blower, rated with a minimum of 9.0 HSPF.
- DHP or ducted mini-split must be listed on [BPA's DHP Qualified Product List](#) or [Northeast Energy Efficiency Partnership \(NEEP\) Cold Climate Specification List](#).
- DHP must be installed on a dedicated electrical circuit, according to manufacturer's specifications and the [Best Practices for Installing Ductless Heat Pumps Guide](#).

## RECOMMENDED

May be required by your local utility.

- Systems should be designed, sized and selected to offset at least 30% of the building's heating load at the winter designated temperature for the homes location.
- When installing refrigerant lines, create new flares using appropriate R410A flaring tool and measurement gauge. DO NOT USE manufacturer-provided tubing flares and fitting.
- Set the outdoor unit on a stable, level surface and secure to the pad, risers and/or resting surface using bolts.
  - Install outdoor unit in clear area that allows optimal airflow through fan.
- Insulation must cover entire line set length to avoid condensation and decreased efficiency, and protect the outdoor line set from insulation damage with rigid line hide and building-code approved line set protection.
- Condensate drains must slope downhill. They can be routed with line set and run to a suitable termination point, away from crawlspaces and walkways.

**Connect with the local serving utility to confirm pre- and post-condition requirements.**



### Pre-Condition:

Electric forced air furnace or electric resistance zonal heat (baseboards, wall heaters, IR panels, ceiling cable heat) as the primary heating system.



### MINIMUM REQUIRED DOCUMENTATION

Contact the serving [utility](#) for specifics on required documentation.

1. Use the [Ductless and Ducted Mini-Split Heat Pump Form](#).
2. Manufacturer, model number, type, size and quantity of product installed.
3. Invoice showing order or purchase date, cost.

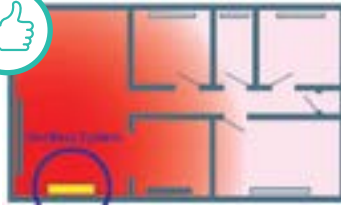
### QUALIFIED PRODUCT LIST AND GUIDES

- [Best Practices for Installing Ductless Heat Pumps](#)
- [BPA's DHP Qualified Product List](#)

### PAIRS WELL WITH

- Prescriptive Air Sealing.
- Insulation.
- Heat Pump Water Heater.

## Installation Examples



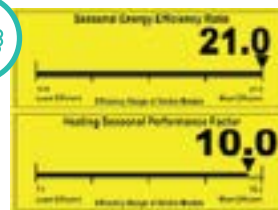
**Displacement of electric-resistance heat is incentivized.**

*Courtesy of NW Ductless Heat Pump Project*



**One incentive per home, regardless of the number of indoor heads.**

*Courtesy of Better Built NW*



**HSPF exceeds minimum of 9.0 per specification.**

*Courtesy of ENERGY STAR, U.S. Environmental Protection Agency*



**HSPF is below 9.0 specification.**

*Courtesy of ENERGY STAR, U.S. Environmental Protection Agency*



**All line set/refrigerant lines properly insulated.**

*Courtesy of PTCS*



**Line set/refrigerant lines not completely insulated.**

*Courtesy of NW Ductless Heat Pump Project*



**Condensate drain is connected to downspout.**

*Courtesy of NW Ductless Heat Pump Project*



**Condensate directly leaks onto a walkway.**

*Courtesy of NW Ductless Heat Pump Project*