

HEAT PUMPS WINTER 101



1. Keep Outdoor Unit Clear of Snow

- After any significant snowfall you should check the outdoor unit to make sure it is clear of snow.
- Gently clear away any snow that has accumulated on your heat pump to ensure it is functioning as efficiently as possible.
- If your heat pump does become blocked with snow it will reduce the efficiency of your system and may cause damage to the unit.
- Snow falling will not typically affect the operation of your heat pump unless the unit is buried.

2. Prevent Ice Buildup

- Ice freezing onto your outdoor unit causes it to be less efficient and can cause physical damage.
- If you notice ice building up on your heat pump you should melt the ice by gently pouring warm water over it. A squeeze bottle is a good way to do this.
- Do not use sharp or heavy objects to remove ice buildup.

3. Heat Pump Shelter or Cover

- Top covers for outdoor units are available for purchase, however most manufacturers do not recommend covering your outdoor heat pump unit because it may stop the heat pump from properly taking in air on the sides and releasing exhaust.
- Running a unit that is *improperly* covered can cause major damage to your heat pump.

4. Wind and your Heat Pump

- Wind can affect the performance of your heat pump if it is constant and/or blowing directly into the unit.
- Location of the outdoor unit is important. Ideally in a place with little wind.
- Relocation after install is complete can be costly.

5. Defrost Mode

- When it is cold outside (near or below freezing) your outdoor heat pump unit may gather a layer of frost and ice. When a heat pump goes into defrost mode, the reversing valve is activated and runs the refrigerant backwards. Heat is extracted from the house to heat the outdoor coil and melts any frost that may be on it.
- Frost buildup decreases the efficiency of the coil by reducing the heat pump's ability to transfer heat to refrigerant.
- Defrost cycle is the system recognizing ice has formed. It automatically fixes it.
- The defrost cycle kicks in to rid the exchanger of ice.

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- The indoor unit stops heating while in defrost and cool air may temporarily come out of the indoor unit.

6. Backup Heat

- With most high efficiency heat pumps it is best to continue running your heat pump in cold temperatures. Let your back up or supplementary heat kick in if necessary.
- When outdoor temperatures drop too low, your heat pump will need to rely on supplementary heat to warm your home.
- When temperatures outside drop very low (below -20, -25 degrees) your air source heat pump will typically rely 100% on supplementary heat.
- Supplementary heat is more expensive than an air source heat pump because it is less efficient.
- Baseboard heaters are 100% (COP=1) efficient while heat pumps can be approximately 300% (COP=3) efficient.
- It is recommended to set supplementary heat approximately 2 degrees lower than heat pump temperature setting.
- When temperatures are above zero your air-source heat pump should be able to satisfy 100% of the heating load in the area heated by the heat pump. Once temperatures dip below zero, most units will still be able to satisfy the heating load requirement, but will begin to lose efficiency.