



Air Conditioning, Heating & Refrigeration
Residential & Commercial
Service, Repair & Installation
Phone: 602-995-3880

HEAT PUMPS

A HEAT PUMP IS AN ENERGY EFFICIENT WAY OF HEATING/COOLING YOUR HOME. ITS DESIGN AND MODE OF OPERATION OFTEN CONFUSE MANY FIRST TIME USERS (ESPECIALLY DURING THE HEATING SEASON). TO HELP YOU BETTER UNDERSTAND A HEAT PUMP, NOTED BELOW ARE SEVERAL FACTS AS TO WHAT YOU CAN EXPECT FROM YOUR HEAT PUMP SYSTEM.....

- 1. During the cooling season, the heat pump operates like a conventional air conditioning system, i.e., the cool air blowing inside of your home. EXAMPLE: If your home is 80°F inside, the air coming out of your registers should be approx. 60°F (the air comes out about 20° less than what goes in). As the temperature cools down inside, the air coming out of the register lowers. This is why it takes hours to cool a home when the air conditioning system is off during the summer.**
- 2. During the heating season, the heat pump rarely delivers very hot (135°F+) air as compared to a gas furnace or a unit with heat strips, but instead, delivers large quantities of warm (95-105°F) air. A heat pump will probably run almost continuously during cold weather. SPECIAL NOTE: During very cold weather the 95°F air blowing into your home is lower than your body temperature (98.6°F) and will feel like cool air as a result, however it is heating your home as designed since the 95° air is warmer than the 68 to 75 degrees at which the thermostat is set.**
- 3. A heat pump will “change tune” slightly as it moves from cooling to heating as the temperature varies, or as frost builds up on the outdoor coil.**
- 4. There will be moisture draining from the surface of the outdoor coil when the unit is in the heating cycle. This moisture will turn to frost when the outdoor temperature falls below 40°F.**
- 5. The outdoor coil may become totally white with frost during cold weather. Unless this condition persists for over 1 ½ hours without defrosting, you should not be disturbed. Frost will build up very rapidly during cold, humid days.**
- 6. When the heat pump defrosts, you will hear a slight “swoosh”, the outdoor fan motor will turn off, and the air being delivered into your home will be slightly cooler than normal. The duration of a defrost cycle will vary from 5 to 20 minutes, according to the amount of frost on the outdoor coil.**
- 7. Steam or fog from the outdoor coil is normal during defrost.**
- 8. Newer more efficient heat pumps tend to produce more defrost moisture than older equipment. This may be disconcerting with roof mounted equipment. The run off from a defrost cycle is pure water free of minerals and has never been known to cause a problem.**

9. It is extremely important that nothing restrict airflow or the defrost water runoff near the outdoor unit. Leaves, grass clippings, and the like should be cleaned off regularly. Caution, due to the live electrical components in the system, this should only be done by a licensed contractor.
10. Return air filters must be cleaned or replaced monthly. Dirty air filters restrict airflow and increase operating costs.
11. Indoor air supply must not be blocked or restricted by furniture or draperies.

General System information

System capacity

The most economical operating system is one that is correctly sized for the application. While an undersized system will not heat or cool the structure to the desired levels, it may actually cost less to operate than one that will. Oversized systems can cost more to operate and provide no better, frequently less, comfort than the correct size system. Following industry standards, a system sized correctly will heat and cool the home quite well under the normal range of outdoor temperatures; however it will not be able to heat/cool to the desired level under “extreme” weather conditions. These extreme conditions occur less than 5% of the year and by not having a system large enough to compensate for them the consumer saves considerably the rest of the year. Under these “extreme” conditions one would expect to have the temperature be no more than about 4° from the design temperature.

Maintenance & warranties

Shipped with each system are the use and care manuals as well as the warranty information for the particular equipment installed. A heating and cooling system is a major investment and the best way to insure it performs as it should for many years to come is with regular preventative maintenance. Also available are different extended warranties from most manufacturers that may be purchased for an additional charge. Once an extended warranty is purchased from a manufacturer you will receive your policy in the mail within 60 days, usually much less. In most cases, extended warranties must be purchased within 60 days from the date of installation.

Filters

When purchasing a replacement filter for their system a consumer is faced with a great many different types of filters to choose from. Many will work fine in your system, but some can create problems. Please consult your installing dealer before changing the type of filter from what your dealer installed.

Other considerations

The use of oil lamps, candles and other such devices should only be done so in accordance with the manufacturer’s directions. It is believed the inappropriate use of such products may cause soot to become air borne and distributed throughout the home by the heating and cooling system. Once settling the soot can permanently stain walls, flooring, draperies and furniture. Anything air borne can be distributed throughout the home in a matter of minutes during system operation. Similar types of products marked “Outdoor use only” should only be used in such a way so the emissions cannot enter the home. The National Candle Makers Association has a web site as well as other such sites, some cautioning us on of the use of candles made with petroleum products as opposed to those made from bee’s wax. Your heating and cooling system does a good job of moving air and anything else in that air.

Your new system will not sound like your old one. Sound is a very influential part of our environment. The new sound is different and if one has expectations of the new system sounding just like the old one, the different sound may be unwelcome, even if it is actually quieter. After all the sound of the previous system welcomed us home for years.



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A+ Rated