

# OPERATING YOUR HEAT PUMP

## How A Heat Pump Works

If your hand is wet and you blow on it, it feels cool because some of the moisture is evaporating and becoming a vapor. This process requires heat. The heat is being taken from your hand, so your hand feels cool. That's what happens with a heat pump. During the cooling cycle, your system will remove heat and humidity from your home and will transfer this heat to the outdoor air. During the heating cycle, your system will remove heat and humidity from the outdoor air and will transfer this heat to your home. This is possible because even 0 degree Fahrenheit outdoor air contains a great deal of heat. Remember that your heat pump doesn't generate much heat. It merely transfers it from one place to another.

## Thermostat Operation

**System Off – On stand by:** No heating, cooling, or blower air. Set system switch to “Off” and fan switch to “Auto”.

**Fan Only – For air circulation only:** Set fan switch to “On” and system switch to “Off”.

**Cooling – To operate the heat pump as an “air conditioner”:** Set system switch to “Cool”, fan switch to “Auto”, emergency heat switch to “Normal” (on those thermostats that have a separate switch), and the temperature selector level to the desired temperature. For a cooler temperature, set lever to lower number. For less cooling, set lever to higher number.

**Heating – To operate the heat pump for heat:** Set system switch to “Heat”, fan switch to “Auto”, emergency heat switch to “Normal” (on those thermostats that have a separate switch), and the temperature selector level to the desired temperature. For a higher temperature, set lever to higher number. For less heat, set the lever to a lower number

**Emergency Heat – Heating the home in case the outdoor units fails:** Set the system switch to “Emergency Heat” (on those thermostats that have a separate switch), fan switch to “Auto”, and the temperature selector lever to desired temperature. Emergency heat light will come on and only the furnace will operate.

**Continuous Air Circulation:** Regardless of whether heating or cooling the home: Set fan switch to “On”, system switch to either “Heat” or “Cool” and the temperature selector lever to the desired temperature.

Set your thermostat for heating or for cooling. Then set it for the desired temperature. Find the temperature that is most comfortable for you, and then leave your thermostat alone. Manually moving the thermostat up or down to extreme settings will not speed up temperature changes.

## Heating Cycle

With the thermostat in the heating position, and the outdoor temperature in the range of 20 to 30 degrees or below, the outdoor unit will generally run 100% of the time. All systems can be equipped with balance point control to provide even more efficient operation. This control will prevent the electric heater from being energized when the outdoor air is above some predetermined temperature setting ( 0 to 45 degrees Fahrenheit). At higher temperatures, your system will provide all the heat your home will ever need. At lower temperatures, the auxiliary heat will be energized to keep your home comfortable.

When the outdoor air is cool and moist, frost may form on the surface of your outdoor coil. When this frost builds to a certain point, your system will switch to a defrost cycle. Although you may feel cooler air coming from your registers, DO NOT adjust your thermostat. The frost will melt quickly, and your system will return to normal operation automatically.

### Cooling Cycle

Switch your thermostat to cool. Select a comfortable thermostat temperature setting, typically between 75 and 80 degrees. Comfort sensations vary with individuals. The lower the indoor temperature desired, the greater will be the number of hours your unit must operate.

Set your thermostat 2 or 3 degrees Fahrenheit below normal several hours before entertaining large groups during hot weather. People give off considerable heat and moisture.

On an extremely hot day, the indoor temperature may rise 3 to 6 degrees Fahrenheit above the thermostat setting. Properly selected equipment does not have the capacity to maintain a constant indoor temperature during the peak load. Over-sizing your system to handle this peak load isn't practical because the oversized system would operate much less efficiently at all other conditions.

## TO MAXIMIZE OPERATING EFFICIENCY

### Heating Conservation

For the most efficient operation, keep storm windows and doors closed all year long. They not only help insulate against heat and cold, but they also keep out dirt, pollen and noise.

Closing drapes at night, keeping fireplace dampers closed when not in use, and running exhaust fans only when necessary will help you to retain the air you have already paid to heat.

Keep lamps, televisions, or other heat producing sources away from the thermostat. The thermostat will sense this extra heat and will not be able to maintain the inside temperature to the desired comfort level.

### Cooling Conservation

To comfortably cool your home, your heat pump must remove both heat and humidity. Don't turn your system off though you will be away all day. On a hot day, your system may have to operate between 8 to 12 hours to reduce the temperature in your home to a normal comfort level.

Keep windows closed after sundown. While the outdoor temperature at night may be lower than indoors, the air is generally loaded with moisture which is soaked up by furniture, carpets, and fabrics. This moisture must be removed when you restart your system.

### Power Interruption

When ice, snow, wind storms, etc. disrupt electrical power supply to your house, proceed as follows:

#### Heating Season

1. Switch thermostat to emergency heat.

NOTE: There will be no heat available until power is reestablished.

2. Leave on emergency heat for at least 8 hours after electrical power is reestablished if the power was off more than 8 hours.
3. Switch thermostat back to heating or auto.

#### Cooling Season

1. Switch thermostat to OFF position.
2. Do not switch to cooling or auto until electrical power has been reestablished for 8 hours if the power was off more than 8 hours.