

HORRY ELECTRIC COOPERATIVE

A Touchstone Energy® Cooperative 

Operating Guide For Heat Pumps

General Information

Your heat pump does not operate like other heating systems. In the heating mode, the heat pump removes heat from the outside air and transfers it to the inside air. In the cooling mode, the heat pump removes heat from the inside air and releases it to the outside air. The heating and cooling modes are controlled automatically by the indoor thermostat setting.

The coils of your heat pump operate at lower heat levels than fossil fuel systems. Air at the supply grills almost always has a temperature ranging from 85° to 106°F in the winter. Air at the registers may feel cool compared to that from other heating systems which operate at much higher temperatures for a shorter length of time.

Even outside winter air contains some heat. As outside air temperature drops, the unit runs more to collect and deliver the necessary heat inside your home. As outdoor temperature decreases, the efficiency of the heat pump decreases. Even at 17°F though, your heat pump is still more than 100% efficient, which means for every unit of energy you pay for, you receive more than one unit of energy for space heating. The balance point of the heat pump occurs when at full capacity, it supplies all the heat your home needs. As the outside temperature drops below the balance point, the supplemental heat will assist your heat pump and maintain your thermostat setting.

Suggested Operating Instructions

Be sure electric service has supplied a compressor for 8 hours in cold weather and 2 hours at other times before the heat pump is started. Upon start up, if the small heater in the compressor is not in operation long enough to keep the oil and refrigerant separated the compressor may be damaged. This is also true whenever there is a power outage for more than a few minutes, and especially if the weather is cold. If heat is needed, put the thermostat on emergency heat for about 6 to 8 hours after power is restored.

At night, do not set a standard thermostat back. The energy savings of a heat pump may be offset if you turn the thermostat up more than 2 degrees the next morning. Specially designed heat pump thermostats, which have a built-in set back feature, are available for most heat pumps. Check with your dealer.

Getting the proper amount of air across the indoor and outdoor coils is very important. Check the filters every month during the heating and cooling seasons and keep the area around the outside unit cleared. Use water under pressure from a hose to clean outside coil once a year.

Do not close off individual room supplies. Closing supply registers may restrict air flow through the system resulting in less efficient operation.

Keep return grills free so that unrestricted air can flow back to the indoor unit.

Heat Pumps Make Good Sense

Have a qualified service person or contractor check over the unit at least every two years.

The following checklist will help you troubleshoot your heat pump:

Heating Mode

1. The outside unit gives off what appears to be steam. The steam is actually water vapor and occurs during the defrost cycle. This should cause no alarm because this is a normal process.
2. Auxiliary heat light "ON" (located on thermostat).
 - Supplementary heaters are providing heat (usually when outside temperature is lower than the balance point, generally 35° or less).
 - Thermostat setting has been adjusted up more than 1.5°, which causes supplementary heaters to come on until thermostat is satisfied.
3. Little or no air flow from registers.
 - Filters are dirty — replace.
 - Blower motor or belt failure.
 - Air leaks from ducts.
 - A blocked return grill.
4. Outside unit continuously running in very cold weather. (All units run continuously below the balance point.)
 - Thermostat setting too high.
 - Low refrigerant level in unit.
 - A cold draft near thermostat.
 - Outside unit coil blocked by snow, ice, etc.
 - Thermostat needs adjustment.

Cooling Mode

1. Outside unit continuously running.
 - Low refrigerant level in unit.
 - In very warm weather thermostat set very low.
 - Outside coil partially blocked.
 - Thermostat located near heat source, such as appliances, TV, etc.
 - Dirty filters or too many registers closed, limited air movement.
2. Unable to cool house and reduce humidity level.
 - Low refrigerant level in unit.
 - Possible compressor problems.
 - A door or window open.
 - Duct system could have air leaks.

Heat Pumps are Energy Efficient!



Questions call Energy Management at 369-2211