

PACKAGED HEAT PUMP



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This unit has been specially developed and built as a heat pump - to meet the dual needs of heating and cooling. It's not just an air conditioner with extra parts. That's why you can rely on efficient, trouble-free operation.

Your system is fully automatic. Set the thermostat and forget it. And it's automatically protected from damage by voltage fluctuations or excessive heating or cooling demands.

Your packaged heat pump is a self-contained unit and is installed outside of the home.

HOW YOUR 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°F 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.

Congratulations . . .

On your purchase of one of the most versatile packaged heat pumps available in the industry today. This compact, energy-efficient packaged heat pumps has been precision designed, manufactured of high-quality materials and has passed many rigorous inspections and tests to ensure many years of satisfactory service. This booklet is meant to increase your understanding of your unit, tell you how to operate it efficiently and how to obtain the greatest measure of comfort at the lowest operating expense. Please read this booklet thoroughly. We appreciate your interest in our product and your decision to purchase our packaged heat pumps. Enjoy your comfort.

SYSTEM OPERATION

Your thermostat puts full control of the comfort level in your home at your fingertips.

DO NOT switch your thermostat rapidly On and Off or between Heat to Cool. This could damage your equipment. Always allow at least 5 minutes between changes.

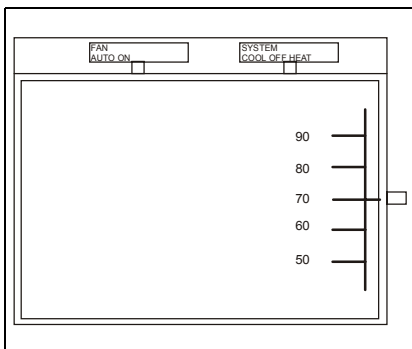


FIGURE 1

SETTING THE THERMOSTAT

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 lever to the desired temperature. For a cooler temperature, set lever to lower number. For less cooling, set lever to higher number.

CAUTION

The main power to the system must be kept "ON" at all times to prevent damage to the unit's compressor. If necessary, the thermostat control switch should be used to turn the system "OFF". Should the main power be disconnected or interrupted for 8 hours or longer, DO NOT attempt to start the system for 8 hours after the power has been restored. If heat is needed during this 8 hour period, use emergency heat.

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 lever 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 - When unit is installed auxiliary electric heaters: 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 auxiliary heat 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.

To operate a Programmable/Electronic thermostat: Refer to its Owner's Manual.

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 speedup temperature changes. Avoid moving the thermostat up during heating - particularly where a demand type electric meter is installed. This will increase your operating cost substantially.

HEATING CYCLE

With the thermostat in the heating position, and the outdoor temperature in the range of 20 to 30° 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°F). 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°. 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°F 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°F 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 even 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 sun-down. 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.

The hotter the outside temperature, the greater the load on your system. Therefore do not be alarmed when your system continues to run after the sun has set on a hot day. Heat is stored in your outside walls during the day and will continue to flow into your home for several hours after sunset.

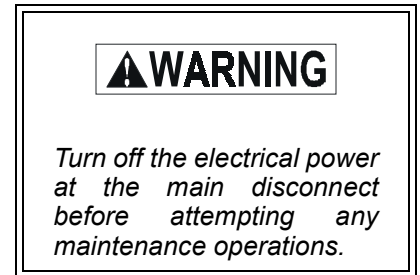
Use your kitchen exhaust fan when cooking. One surface burner on "HIGH" requires one ton of cooling. Turn on your bathroom exhaust fan while showering to remove humidity. However, exhaust fans should not be run excessively. It would decrease efficiency by removing conditioned air.

You can also help your system in the summer by closing drapes or blinds and by lowering awnings on windows that get direct sunlight.

CARE OF SYSTEM

IMPORTANT - The Owner/user should not attempt to disassemble the equipment nor perform the periodic maintenance unless they are experienced and qualified to do so.

A periodic inspection, cleaning, lubrication and adjustment of your heat pump is available from your



dealer. Be sure to ask him about this service.

For those who prefer to do-it-yourself, follow the instructions below to care for your system.

Document and retain in your records, the following information:

Model No.: _____
 Serial No.: _____
 Date Installed: _____
 Installing Dealer: _____

This information will be useful if the unit requires service from a qualified technician.

COIL CARE

Keep the outdoor coil free of loose snow, foliage, grass clippings, leaves, paper, and any other material which could restrict the proper air flow in and out of the unit. The coil may be vacuumed to remove any debris from between the fins. However, don't knock ice off the unit's coil surface following an ice or severe snowstorm. The blows could mash the coil fins shut (blocking air passage), or break the refrigerant tubing allowing the refrigerant to escape.

If the coil becomes excessively dirty, turn the main disconnect switch to OFF and wash the coil with your garden hose. Avoid getting water into the fan motor and control box. Flush dirt from base pan after cleaning the coil.

CARE OF FAN MOTORS

Some fan motors are provided with lubrication ports. Inspect both your blower and fan motors to determine whether or not lubrication ports are provided.

The fan motor is shipped with an oil supply which will last for several years under normal operating conditions. After this time, each motor bearing should be oiled with 10-15 drops (approximately 1/4 teaspoon) of SAE 20 non-detergent electric motor oil or automobile oil. DO NOT use definite purpose oils such as sewing machine, cleaning, rust preventative, cutting, household, etc.

Schedule for Relubrication		
Running Hours Per Day	Environment	
	Normal	Dirty
0-8	Every 5 yrs.	Every 4 yrs.
9-16	Every 4 yrs.	Every 3 yrs.
17-24	Every 3 yrs.	Every 2 yrs.
DO NOT OVER OIL		

Inspect your blower motor and care for it in the same way.

FILTER CARE

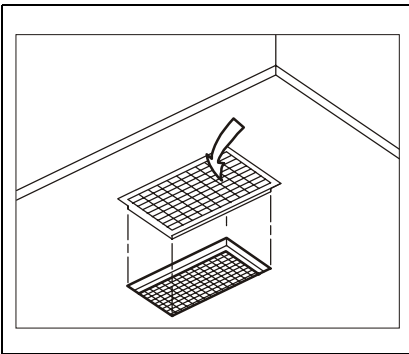


FIGURE 2

Inspect the air filter(s) at least once a month. If they are dirty, wash reusable filters with a mild detergent per manufacturer's recommendations. Replace disposable filters with new filters.

Install the clean filters with air flow arrow in the same direction as the air flow in your duct. Filters should be clean to assure maximum efficiency and adequate air circulation. Drapes, furniture or other obstructions blocking your supply and return air grilles will also decrease efficiency.

UNIT PAINT FINISH

If you wish to maintain the finish of the outdoor unit, it can be polished with car wax. It is recommended the unit be cleaned with soap and water prior to waxing.

CLEARANCES

The minimum clearances shown below must be maintained should any patio or yard improvements be done around the outdoor unit.

Top 60"	Sides 10"
Rear 10"	Front* 24"

* Service access panel

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 (power must be re-established.)
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.

PARTS INFORMATION

Replacement parts are available from local contractor/dealers or the nearest distribution center.

CHARACTERISTICS OF HEAT PUMPS

A CONSTANT HEAT

Heat pumps have a noticeable cooler supply air temperature than furnaces. Heat is supplied at a lower temperature over a longer period of time to provide a more constant heat, and it may give you the impression that your system "never stops running".

WATER RUN-OFF

During the heating cycle, in mild weather you may notice water running off the outdoor coil. Moisture from the air is condensed on the outside surface of the coil where it gathers and runs off.

No need for alarm, your unit has not sprung a leak!

OUTDOOR COIL DEFROSTING

At certain outdoor conditions (low temperature, high humidity), frost may build up on the coil of the outdoor unit.

In order to maintain heating efficiency, the system will automatically defrost itself. Steam rising from the outdoor unit is normal and is an indication of proper operation. The vapor cloud will only last for a few minutes. When the defrost cycle is completed, the system will automatically switch back to heating. Auxiliary heat is automatically energized to maintain comfort during defrost.