

*User's
Information
Manual*

SPLIT-SYSTEM HEAT PUMP

Congratulations . . .

On your purchase of our Heat Pump. This energy efficient unit has been precision designed, manufactured of high quality materials and has passed many rigorous inspections and tests to ensure years of satisfactory service.

This booklet is meant to increase your understanding of your heat pump, 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 products and your decision to purchase our system. Enjoy your comfort.

FILL OUT AND RETURN YOUR REGISTRATION CARD

This Heat Pump 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 get reliable, trouble-free operation. It's fully automatic. Set the thermostat and forget it. And it is automatically protected from damage by voltage-irregularities or excessive heating or cooling demands.

Your split system heat pump consists of two sections - one installed outdoors, usually on a concrete slab, and one installed indoors. The indoor section may be installed in a basement, attic, closet, or crawl space.

HOW YOUR HEAT PUMP WORKS

If you wet your hand and blow on it, it feels cool. That is because some of the water is evaporating (becoming a gas). 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, the liquid in the indoor coil becomes a gas. For its change of state, it requires heat. It takes the heat from the air in a room and the room is cooled. The heated gas is then pumped by the compressor to an outdoor coil where the heat is expelled into the outside air. As the gas loses its heat, it becomes a liquid. This process keeps repeating itself.

During the heating cycle we reverse all this. Suppose the liquid is changed to a gas in the outdoor coil. Then the necessary heat is drawn from the outside air*. When the gas is brought into the house, it releases its heat to the air inside, and the room is warmed.

* This is possible because until the air temperature falls to -460°F there is always some heat in the air. A heat pump captures this heat and transfers it to where it is needed.

UNDERSTANDING THE THERMOSTAT

System Selector Switch: For selecting the desired mode of operation for seasonal comfort.

OFF: Set system selector to OFF. Neither heating or cooling mode functions because the temperature sensing switches are turned off.

HEATING: Set the system selector switch to HEAT. Only the heating mode of the heat pump functions. Also see temperature selector lever.

COOLING: Set the system selector switch to COOL. Only the cooling mode of the heat pump functions. Also see temperature selector lever.

EMERG. HEAT: With the switch in this position, the emergency heat light comes on and stays on, and only the furnace or electric resistance heat operates to provide heat. (The emergency heat switch is a separate switch on some thermostats.)

Temperature Selector Lever: Set this lever to the desired comfort level you wish to maintain.

HEATING MODE: For more heat, set the lever to a higher number. For less heat, set the lever to a lower number.

COOLING MODE: for a cooler temperature in the home, set the lever to a lower number. For less cooling, set the lever to a higher number.

Emergency Heat Switch: (For thermostats that have a separate switch for this function.) In case the heat pump fails to operate, this switch can be used to heat the home with the furnace or electric resistance heat.

NORM: With the switch in this position, the heat pump operates normally as described above.

EMERG. HEAT: With the switch in this position, the emergency heat light comes on and only the furnace

or electric resistance heat operates to provide heat.

Auxiliary Heat Light: The Auxiliary Heat Light indicates supplemental heating is in operation and required to maintain the thermostat set point.

Emergency Heat Light: The Emergency Heat Light turns on when the switch is set to **Emerg. Heat**. The light also turns on if proper maintenance is neglected, or if certain service problems develop. This latter function of the emergency heat light occurs only when the selector switch is set to the normal heating or cooling position.

Fan Switch: For selecting the furnace blower operation.

AUTO: With switch in this position, the blower only runs when the heat pump or furnace is operating.

ON: The blower runs continuously as long as the fan switch is in this position, and electrical power is on.

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 NORM (on those thermostats that have separate switch), and the temperature selector lever to the desired temperature.

Heating - To operate the heat pump for heat: Set system switch to HEAT, fan switch to AUTO, emergency heat switch to NORM (on those thermostats that have a separate switch), and the temperature selector lever to the desired temperature.

Emergency Heat - Heating the home in case the outdoor units fails: Set the system switch to EMERG. HEAT, (or

EMERG. HEAT on those thermostats that have a separate switch), fan switch to AUTO, and the temperature selector lever to the desired temperature

NOTE:

Emergency heat will not operate during a power failure.

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.

SYSTEM OPERATION

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

DO NOT switch your thermostat on and off, or back and forth from heat to cool. This could damage your equipment. Always allow at least five minutes between changes, 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 does not speed-up temperature changes. Particularly where a demand type electric meter is installed, avoid moving the thermostat up during heating.

CAUTION: Main power to system must be kept "ON" at all times to prevent damage to the outdoor unit compressor. If necessary, the thermostat control switch should be used to turn the system "OFF". Should main power be disconnected or interrupted for some reason for eight hours or longer, no attempt should be made to start the system for eight hours after the power has been restored to the outdoor unit. If heat is needed during the heating season, use emergency heat during the eight hour waiting period.

HEATING CYCLE

With thermostat in the heating position, the outdoor unit will run most of the time between 20 - 30 degree outdoor temperature.

The auxiliary electric heating strip will come on automatically as needed when the outdoor temperature becomes very low and during the defrost cycle.

During high humidity conditions and freezing rain, frost build-up may occur on the outdoor unit coil. The unit will

automatically go into a defrost cycle. At this time, you may feel cooler air coming from your registers. This is normal and the time will be short. There is no need to adjust your thermostat.

COOLING CYCLE

Switch your thermostat to cooling. Select a comfortable thermostat 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 and the greater the expense.

Set your thermostat two degrees or three degrees below normal several hours before entertaining large groups in small spaces during hot weather. People give off considerable heat and moisture.

On an extremely hot day the indoor temperature may rise a bit above the thermostat setting. Properly selected equipment does not have the capacity to maintain a constant indoor temperature during those few extremely hot hours during the warmest days of summer. A three degree to six degree increase in indoor temperature may be anticipated during short periods of peak demand on your system.

AIDS TO MAXIMUM OPERATING EFFICIENCY

HEATING CONSERVATION

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

Closing the drapes at night reduces heat loss during the heating season. Keeping fireplace dampers closed when not in use and running exhaust fans only as long as necessary, will help you to retain air you have paid to heat.

COOLING CONSERVATION

To comfortably cool your home, your heat pump must remove both heat and humidity. The dehumidifying action is important.

Don't turn off the unit even though you are away all day. If the temperature has climbed during a period of non-operation, it will take quite a while to drop it

and the humidity down to a reasonable comfort level. On a hot humid day, from eight to twelve hours of continuous operation may be required to restore normal comfort conditions.

Keep windows closed after sundown. While the temperature at night may be lower than indoors, it is generally loaded with moisture (latent heat) which is soaked up by furniture, carpets, and fabrics. This moisture load must be removed when you again turn on your air conditioner.

The hotter the outside temperature, the greater is the load on your unit. Therefore, do not be alarmed when your unit runs continuously from morning well into the night on a hot day. Heat is stored in your outside walls during the day and continues to flow into the building 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.

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

Unitary Products Group (UPG) strongly recommends regular periodic preventive maintenance on this equipment. The person most familiar with the equipment in your H.V.A.C. system is a UPG dealer. The UPG dealer can ensure your maintenance program meets the conditions of the UPG Warranty, maximize the efficiency of the equipment, and service your unit within the federally mandated guidelines with regard to unlawful discharge of refrigerants into the atmosphere

COIL CARE

Keep outdoor unit free of snow, foliage and grass, grass clippings, leaves, paper, and any other material which could restrict proper air flow in and out of the unit. If the coil becomes excessively dirty, turn the Main Disconnect Switch to "OFF" and wash coil with a spray of water from your garden hose. Avoid getting water into the fan motor and control box. Clean between the coil fins by flushing from both outside and inside. Flush dirt from base pan after cleaning the coil. The coil may also be vacuumed.

FILTER CARE

Inspect the air filter(s) periodically. 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" arrows 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 decrease efficiency.

SERVICE CALLS

While a serviceman should be called if any malfunction is detected, there are a few instances where you can avoid unnecessary service calls. They can be found in the trouble shooting guide.

PARTS INFORMATION

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

Extended Protection Plans

Special warranty packages are available thru your UPG contractor / dealer. These packages reduce the potential cost of service calls following the first year of operation on your cooling or heating/cooling system.

Clearances

Consult the Installation Instructions for minimum clearances that must be maintained, should any patio or yard improvements be done around the outdoor unit.

CHARACTERISTICS OF HEAT PUMPS

A CONSTANT HEAT

The Heat Pump, when compared with a furnace heating system, has a noticeably cooler supply air on the heating cycle. The common practice of oversizing furnaces contributes to an "off-and-on-again" operation with short blasts of hot supply air.

The heat pump system is sized more closely to the heating needs of your home. The heat required is supplied at a lower temperature over a longer period of time to provide a more constant heat and the impression that your unit "never stops running".

A FUNNY SOUND

A light tapping or clicking sound may be heard at the indoor unit (section) when the system is shutting down (thermostat satisfied, heating cycle going off).

The sound is caused by the internal movement of the metering device and should be considered perfectly normal for a properly operating system. The sound will stop when the pressures within the system have equalized (usually within 60 seconds).

WATER RUN-OFF

During the heating cycle you may notice water running off the outdoor coil. Mois-

ture from the air is condensed on the outside of the coil surface 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) there may be a build-up of frost and ice 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. Electric heat is automatically energized to maintain comfort during defrost.

HOME OWNER TROUBLE SHOOTING GUIDE

| | |
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| NO HEAT | Check thermostat for proper setting. Check breakers and fuses. Check filter. Call qualified service man. |
| NOT ENOUGH HEAT OUTDOOR UNIT NOT RUNNING | Check breakers and fuse. Switch to emergency heat position on thermostat. Call qualified service man. |
| NO COOLING | Check thermostat for proper setting. Check breakers and fuses. Check filter. Call qualified service man. |
| ELECTRIC POWER Interruption (ice storms, wind storm, etc.) | Procedure Heating Season 1. Switch to "EMERGENCY HEAT"* on thermostat. 2. Leave on emergency heat for at least 12 hours after electrical power is re-established. 3. Switch thermostat back to heating or auto. Procedure Cooling Season 1. Switch thermostat to "OFF" position. 2. Do not switch to "COOLING" or "AUTO" position until the unit's electrical power has been re-established for eight hours. |

* There will be no heat available until power is re-established.

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