***Q8SF / PPH3SF SERIES** **16 SEER / 12 EER / 8.2 HSPF**

USER'S MANUAL

SINGLE PHASE, CONVERTIBLE PACKAGE HEAT PUMP - TWO-STAGE - R410A

IMPORTANT

- **Under no circumstances should the appliance owner attempt to install and/or service this equipment. Some local codes require licensed installation / service personnel for this type of equipment. Improper service, adjustment, or maintenance may cause explosion, fire, electrical shock or other hazardous conditions which may result in personal injury or property damage.**
- **Read these instructions thoroughly before using the equipment. Follow all precautions and warnings contained within these instructions and on the unit.**
- **Improper installation, adjustment, alteration, service, or maintenance can cause personal injury or property damage. Refer to this manual. For assistance or additional information, consult a qualified installer or service agency.**
- **Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.**

DO NOT DESTROY. PLEASE READ CAREFULLY & KEEP IN A SAFE PLACE FOR FUTURE REFERENCE.

IMPORTANT SAFETY INFORMATION

Please read all instructions before servicing this equipment. Pay attention to all safety warnings and any other special notes highlighted in the manual. Safety markings are used frequently throughout this manual to designate a degree or level of seriousness and should not be ignored. **WARNING** indicates a potentially hazardous situation that if not avoided, could result in personal injury or death. **CAUTION** indicates a potentially hazardous situation that if not avoided, may result in minor or moderate injury or property damage.

ABOUT THE HEAT PUMP

Your heat pump is a unique, all weather comfort-control appliance that will heat and cool your home year round and provide energy saving comfort. It's an unknown fact that heat is always in the air, even when the outside temperature is below freezing. The heat pump uses this basic law of physics to provide energy saving heat during the winter months. For example, If the outdoor temperature is 47° F (8° C), your heat pump can deliver approximately 3.5 units of heat energy per each unit of electrical energy used, as compared to a maximum of only 1 unit of heat energy produced with conventional heating systems.

During summer, the heat pump reverses the flow of the heat-absorbing refrigerant to become an energy-efficient, central air conditioner. Excess heat energy inside the home is absorbed by the refrigerant and exhausted outside the home.

OPERATING INSTRUCTIONS

Please refer to the thermostat manufacturer's User manual for detailed programming instructions. To achieve maximum effcieincies, this heat pump requires a 2-stage heat pump thermostat. If auxillary heat is installed a 3-stage heat pump is required. If the auxillary heat is staged, then a 4-stage heat pump thermostat is required.

Cooling Operation

1. Set the thermostat's system mode to COOL or AUTO and change the fan mode to AUTO or ON. See Figure 1.
2. Set the temperature selector to the desired temperature level. The outdoor fan, compressor, and blower motor will all cycle on and off to maintain the indoor temperature at the desired cooling level.

   NOTE: If the temperature level is re-adjusted, or the system mode is reset, the fan and compressor in the outdoor unit may not start immediately. A protective timer circuit holds the compressor and the outdoor fan off for approximately three minutes following a previous operation or the interruption of the main electrical power.

Heating Operation

1. Set the thermostat's system mode to HEAT or AUTO and change the fan mode to AUTO or ON. See Figure 1.
2. Set the temperature selector to the desired temperature level. The compressor, fan, blower motor, and auxillary heat (if installed) will cycle on and off to maintain the indoor temperature at the desired heating level.

   NOTE: If the temperature level is re-adjusted, or the system mode is reset, the fan and compressor in the outdoor unit may not start immediately. A protective timer circuit holds the compressor and the outdoor fan off for approximately three minutes following a previous operation or the interruption of the main electrical power.

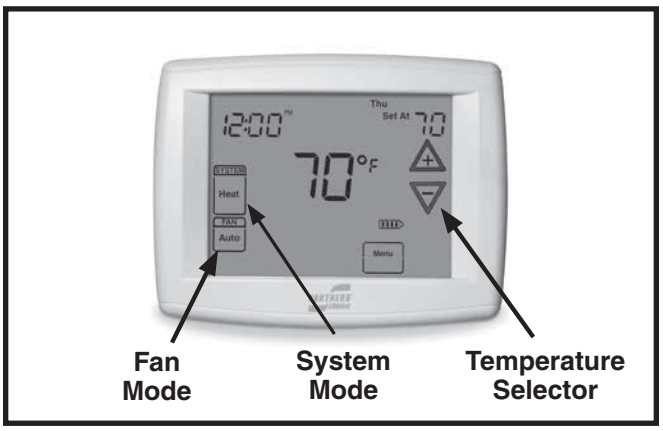

Figure 1. Typical Digital Thermostat

Emergency Heat

Heat pump thermostats should include a system mode called EM HT or AUX HT, etc. This is a back-up heating mode that should only be used if a problem is suspected with compressor operation. With the mode set to EM HT, etc., the compressor and outdoor fan will be locked off and supplemental or auxillary heat (electric resistance heating) will be used as a source of heat. Sustained use of electric resistance heat in place of the heat pump may result in an increase in electric utility costs.

Defrost Operation

During cold weather heating operation, the outdoor coil can develop a coating of snow and/or ice. This is normal and the unit will defrost itself. This unit features Hot Gas Bypass Defrost that monitors ambient and coil temperatures to regulate the defrost function accordingly.

At the beginning of the defrost cycle, both the outdoor condenser fan and compressor will turn off. After approximately 30 seconds, the compressor will turn on and begin to heat the outdoor coil causing the ice and snow to melt.

NOTE: While the ice and snow is melting, some steam may rise from the outdoor unit as the warm coil causes the melting frost to evaporate. When defrost is completed, the outdoor fan motor will start, and the compressor will turn off again. In approximately 30 seconds the compressor will start up again and continue normal operation.

Operating the Heat Pump for Automatic Cooling and Heating

1. Set the thermostat system mode to AUTO and the thermostat fan mode to AUTO. See Figure 1.
2. Set the thermostat's temperature selector to the desired heating and cooling temperature level(s). The outdoor unit and the indoor blower will then cycle on and off in either the heating or cooling mode of operation as required to automatically maintain the indoor temperature within the desired limits.

Operating the Indoor Blower Continuously

The continuous indoor blower operation is typically used to circulate the indoor air to equalize a temperature unbalance due to a sun load, cooking, or fireplace operation.

Set the thermostat fan mode to ON (Figure 1). The indoor blower starts immediately, and will run continually until the fan mode is reset to AUTO.

The continuous indoor blower operation can be obtained with the thermostat system mode set in any position, including OFF.

Shutting the Heat Pump Off

Change the thermostat's system mode to OFF and the fan mode to AUTO. See Figure 1. **NOTE:** The system will not operate, regardless of the temperature selector setting.

HEAT PUMP MAINTENANCE

⚠ CAUTION:

Shut off all electrical power to the unit before performing any maintenance or service on the system. Failure to comply may result in personal injury or death.

Proper maintenance is most important to achieve the best performance from the appliance and should be performed by a qualified service technician at least once a year. Follow the maintenance schedule and the instructions below for years of safe, trouble free operation.

Regular Cleaning

- Clean or replace the indoor air filter at the start of each heating and cooling season, when an accumulation of dust and dirt is visible on the air filter, or more frquently if a resrictive air filter is used.
- Remove any leaves and grass clippings from the outdoor coil of the unit, being careful not to damage the aluminum fins.
- Check for obstructions, such as twigs, sticks, etc.

TROUBLESHOOTING

If the unit fails to operate, check the following:

- The thermostat is properly set. See the operating instructions section of this User Manual.
- The unit disconnect fuses are in good condition and the electrical power to the unit is turned on.

WARRANTY INFORMATION

A warranty certificate with full details is included with the heat pump. Carefully review these responsibilities with your dealer or service company. The manufacturer will not be responsible for any costs found necessary to correct problems due to improper setup, improper installation, adjustments, improper operating procedure on the part of the user, etc. Some specific examples of service calls which are not included in the limited warranty are:

- Correcting wiring problems in the electrical circuit supplying or controlling the heat pump.
- Resetting circuit breakers or other switches.
- Adjusting or calibrating the thermostat.

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ENERGY STAR PARTNER

IMPORTANT - This product has been designed and manufactured to meet ENERGY STAR criteria for energy efficiency. However, proper refrigerant charge and proper air flow are critical to achieve rated capacity and efficiency. Installation of this product should follow the manufacturer's refrigerant charging and air flow instructions. Failure to confirm proper charge and airflow may reduce energy efficiency and shorten equipment life.

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