

# OWNER'S MANUAL

## SPLIT-SYSTEM HEAT PUMP

### USING R-454B REFRIGERANT

#### A NOTE ABOUT SAFETY

**DANGER** identifies the most serious hazards which will result in severe personal injury or death.

**WARNING** signifies hazards that could result in personal injury or death.

**CAUTION** is used to identify unsafe practices which would result in minor personal injury or product and property damage.

**NOTE** is used to highlight suggestions which will result in enhanced installation, reliability, or operation.

#### **WARNING**

##### **PERSONAL INJURY, DEATH AND / OR PROPERTY DAMAGE HAZARD**

Failure to follow this warning could result in personal injury, death and/or property damage.

Improper installation, adjustment, alteration, service, maintenance, or use can cause explosion, fire, electrical shock, or other conditions which may cause personal injury or property damage.

Consult a qualified installer, service agency, or your distributor or branch for information or assistance.

A qualified installer or service agency must use factory-authorized parts or accessories when modifying this product.

Read and follow all instructions and warnings, including labels shipped with or attached to the unit before operating your new heat pump.

#### **WARNING**

##### **ELECTRICAL SHOCK HAZARD**

Failure to follow this warning could result in personal injury or death.

Disconnect all electrical power to the indoor air handler or furnace before removing access panels to perform any maintenance. Disconnect power to both the indoor and outdoor units. There may be more than one electrical disconnect switch.

#### **ABOUT YOUR HEAT PUMP SYSTEM**

Our products are designed, tested and built in accordance with US Department of Energy standardized procedures and other standards; however, actual operating results and efficiencies may vary based on manufacturing and supplier tolerances, equipment configuration, operating conditions and installation practices.

##### **Identifying Your System**

Your new heat pump system is what we call a "split system." It has an outdoor unit and an indoor unit connected to each other with copper tubing called refrigerant lines. Each of these units has a rating plate with the model and serial numbers you will need to reference when calling an authorized dealer about your system.

Take a few moments now to locate those numbers and record them in the spaces provided on the cover of this booklet.

##### **Using Your New System**

Your heat pump system is controlled by a wall-mounted thermostat installed inside your home. Because there are so many thermostats available, please refer to the owner's manual supplied with your thermostat for complete details on system operation.

#### **2-Stage Operation**

If you own a two-stage heat pump system, you may notice your system runs for longer periods of time. When appropriately sized, nearly 80% of the time it's running, it is operating in low-stage, and your indoor temperature will remain more consistent with fewer drafts, better humidity control, enhanced comfort and enhanced energy efficiency.

#### **Heating and cooling Your Home**

For heating or cooling operation, make sure the System or Mode control is set to the appropriate mode. Then, adjust the Temperature control to your desired setting. Finally, use the Fan control to select Automatic (turns on and off as heating is needed) or On (runs continuously).

Depending on your typical heating needs, your home comfort system may also include a supplementary heating source that will automatically turn on as needed. You may also select this heat source manually if desired.

#### **Operation Under Extreme Conditions**

Your heat pump will run as long as necessary to maintain the indoor temperature selected on your thermostat. On extremely hot days, your heat pump will run for longer periods at a time than on moderate days. Your system will also run for longer periods of time under the following conditions:

- Frequent opening of exterior doors
- Operating cooking appliances such as an oven
- Operating laundry appliances
- Taking hot showers
- More than the usual number of people present in the home
- More than the normal number of electric lights in use
- Drapes or blinds are open on the sunny side of the home

#### **A2L Refrigerant Dissipation System**

Your system is utilizing an A2L refrigerant. A2L refrigerants typically require the installation of a dissipation system on the indoor unit. If a refrigerant leak is detected, the dissipation system will turn off the outdoor unit, turn off supplementary heat and turn on the indoor blower.

#### **IMPORTANT HEAT PUMP FACTS**

Heat pump systems have a few unique features and operations that you should be aware of:

- During the heating cycle, air from your registers may seem cooler than you may expect. This is because your heat pump delivers a constant flow of air at around 90° F (32° C) to about 105° F (41° C), compared to sudden blasts of hot air provided by a typical furnace. This air may feel cool if it is slightly below your body temperature, however it is warm enough to keep your home comfortable.
- Ice or frost may form on the outdoor coil during winter heating operation. Your heat pump will automatically melt the ice using its defrost cycle. During defrost, you may see steam or fog rising from the outdoor unit, which is normal.
- Heat pumps installed in areas expecting snow are elevated with support feet.
- In Extreme weather conditions with heavy snow and ice storms, build-up may accumulate on the top of the heat pump and fan blade, causing excessive vibration that may result in damage and or reduced performance. In these conditions, it may be appropriate to turn the heat pump off and run on auxiliary heat until snow and ice has cleared

## ROUTINE MAINTENANCE

Simple, routine maintenance as described below will enhance your heat pump system's ability to operate economically and dependably. In addition to the routine maintenance that you perform, your home comfort system should be inspected regularly by a properly trained service technician. Always remember the following safety precautions:



### CUT HAZARD

Failure to follow this caution may result in personal injury. Although special care has been taken to minimize sharp edges in the construction of your unit, be extremely careful when handling parts or reaching into the unit.

- **Keep Filter Clean**

A clogged or improperly installed air filter on your indoor unit will increase operating costs and shorten the life of the unit. For detailed filter cleaning information refer to indoor unit literature.

- **Do Not Block Floor, Wall or Ceiling Vents**

When drapes, furniture, toys or other common household items block vents, the restricted airflow lessens the system's efficiency and life span.

- **Do Not Cover or Block Outdoor Unit**

The outdoor unit needs unrestricted airflow. Do not cover it or place items on or next to it. Do not allow grass clippings, leaves, or other debris to accumulate on the sides or top of the unit. And, maintain a 12" (305 mm) minimum clearance between the outdoor unit and tall grass, vines, shrubs, etc.

- **Check Condensate Drain**

Your heat pump removes humidity from your home during the cooling season. After a few minutes of operation, water should trickle from the condensate drain of the indoor coil. Check this occasionally to be sure the drain system is not clogged. Drainage will be limited if you live in a very dry environment.

- **Do Not Operate Below 55°F/13°C in Cooling Mode**

Your outdoor unit is not designed to operate when outdoor temperatures are lower than 55°F/13°C without modification. If operation below this temperature is required, consult your authorized dealer.

- **Do Not Operate Above 66°F/19°C in Heating Mode**

Your outdoor unit is not designed to operate on heating mode when outdoor temperatures are higher than 66°F/19°C. You can safely operate the system above 66°F/19°C on emergency or auxiliary heat.

- **Base Pan Drainage**

Periodically check for and remove debris that has settled around the base of your outdoor unit. This will ensure proper drainage of the base pan and eliminate standing water inside the outdoor unit.

- **Level Installation**

Your authorized dealer will install the outdoor unit in a level position. If the support base settles or shifts and the unit is no longer level, be sure to re-level it promptly to assure proper drainage. If you notice water or ice collecting beneath the unit, arrange for it to be drained away from the unit.

### Sea Coast Coil Maintenance

Coastal locations often require additional maintenance of the outdoor unit due to highly corrosive airborne ocean salt. Although your new heat pump system is made of galvanized metal and is protected by top-grade paint, take the additional precaution of periodically washing all exposed surfaces and the outdoor coil approximately every 3 months. Consult your installing authorized dealer for proper cleaning intervals and procedures for your geographic area or ask about a service contract for regularly scheduled professional cleaning and inspections.

## TROUBLESHOOTING

Before you request dealer service, check for these easily solved problems:

- Check the indoor and outdoor disconnect switches. Also check your main electrical panel circuit breakers or fuses.
- Check for sufficient airflow. Air filter(s) should be reasonably clean and interior vents should be open and unobstructed.
- Check thermostat settings. For cooling, your desired temperature setting should be LOWER than the displayed room temperature, and the System/Mode control should be on Cool or Auto. For heating, your temperature setting should be HIGHER than the displayed room temperature, and the System/Mode control is set to Heat or Auto.
- Time delays - depending on the heat pump you have, there may be delays in unit operation that are built-in to protect the equipment and your comfort. Don't be alarmed if you notice a time delay in operation. It may be a standard protection feature of your equipment. Check with your authorized Dealer for more information on time delays.

Maintenance Checklist	Recommended Interval*	
	Monthly	Annual
<b>Outdoor unit specific:</b>		
Clear away debris and vegetation near unit.	X	
Inspect cabinet for damage. Replace components that are damaged or severely rusted.		X
Inspect electrical disconnect for proper function. Repair or replace as necessary.		X
Inspect electrical wiring and connections. Tighten loose connections. Inspect and perform functional test of equipment as needed to ensure proper function. Repair or replace damaged or overheated components and wiring.		X
Check refrigerant system subcooling and/or superheat (system dependent).		X
Inspect inside of unit. Clean if debris is present.		X
Inspect condenser coil. Clean if dust, dirt, or debris is present. Rinse unit with fresh water (see Note 2).		X
Inspect motor and fan for damage. Make sure fan spins freely.		X
<b>Indoor specific: (for fossil fuel furnaces and accessories, refer to unit specific literature)</b>		
Inspect, clean, or replace air filter if dirty.	X	
Inspect and clean blower assembly (includes blower housing, wheel, and motor).		X
Inspect internal and external of cabinet. Clean as needed.		X
Inspect electrical disconnect for proper function. Repair or replace as necessary.		X
Inspect electrical components, wiring, and connections. Tighten loose connections. Repair or replace damaged components and wiring.		X
Inspect evaporator coil. Clean if dust, dirt, or debris is present (see Note 2).		X
Clean condensate pan, trap, and drain lines (more frequent maintenance may be required in humid climates - consult your local HVAC dealer).		X
Inspect airflow system (ductwork). Check for leaks and repair as needed.		X
Inspect leak dissipation system. Wipe or vacuum away dust/debris from refrigerant sensor. Press test button on Dissipation control board to ensure system is functioning correctly. See Installation and Service Instructions for details.		X

\* Monthly maintenance items and outdoor unit rinsing may be performed by the consumer. All other maintenance items and all service work must be performed by a qualified service technician. Read all warning labels.

- Notes:
1. The above list may not include all maintenance items. Inspection intervals may vary depending on climate and operating hours. Consult your HVAC dealer about a service contract for seasonal inspections.
  2. Do not use harsh chemicals or high pressure water on coils. More frequent rinsing is required for units near a sea coast