

# User's Information Manual: Outdoor Variable Speed Communicating Split-System Air Conditioning or Heat Pump - Single-Phase

6515373-UUM-A-1225

## About this manual

Read all sections of this manual and keep the manual for future reference.



WARNING: Cancer and Reproductive Harm – [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

## Contact information

To contact us online, go to [www.york.com](http://www.york.com), select **Contact Us**, and follow the instructions.

To contact us by mail, use the following address:

BHC Group Heating & Cooling  
Consumer Relations  
5005 York Drive  
Norman, OK 73069

## Certification



Assembled at a facility with  
an ISO 9001:2015-certified  
Quality Management  
System



## Trademarks


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**Third-Party Trademarks Notice:** For information about third-party trademarks, refer to the relevant company websites.

# Safety

It is important to understand the safety symbols used in this manual. Read safety information carefully and follow all safety requirements.

## Understanding safety symbols and instructions

 This is a safety alert symbol. When you see this symbol on labels or in manuals, be alert to the potential for personal injury.

Understand and pay particular attention to the signal words **DANGER**, **WARNING**, or **CAUTION**, as well as the **NOTICE**, **Important**, and **Note** alerts.

**DANGER** indicates an **imminently** hazardous situation, which, if not avoided, will result in death or serious injury.

**WARNING** indicates a **potentially** hazardous situation, which, if not avoided, could result in death or serious injury.

**CAUTION** indicates a **potentially** hazardous situation, which, if not avoided may result in minor or moderate injury. It is also used to alert against unsafe practices and hazards involving only property damage.

**NOTICE** indicates information considered important, but not hazard-related, such as messages relating to property damage.

**Important** indicates information that is essential to complete a task or may result in damage to the device if not followed.

**Note** indicates something of special interest or importance. Notes can contain any type of information except safety information.

## Safety requirements



**REFRIGERANT SAFETY  
GROUP A2L**

### **WARNING**

#### **Risk of fire**

This unit uses a mildly flammable (A2L) refrigerant. The unit must only be repaired or serviced by trained service personnel. Before attempting to repair or service the unit, consult the *Installation Manual*. Follow all safety precautions.

## How your system works

### Cooling cycle

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 is what happens with an air conditioner. During the cooling cycle, your system removes heat and humidity from your home and transfers this heat to the outdoor air.

### Heating cycle (heat pumps)

During the heating cycle, your system removes heat and humidity from the outdoor air and transfers this heat to your home. This is possible because even 0°F outdoor air contains a great deal of heat. Your heat pump does not generate much heat, it just transfers it from one place to another.

#### 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 min between changes.

### Setting the thermostat

#### CAUTION

The main power to the 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 the main power be disconnected or interrupted for 8 h or longer, do not attempt to start the system for 8 h after the power has been restored to the outdoor unit. If heat is needed during this 8 h period, use emergency heat.

# Smart Home Control Thermostat (S1-TSHC510)

You are in complete control of your touch-screen thermostat. Real-time alerts, home and away modes, schedule creation and exclusive quick heat/cool settings provide benefits for real life – all available from your home or virtually anywhere in the world with your smart device, our Hx app and an Internet connection. With automatic over-the-air updates and you're assured of efficient and reliable operation.

## Intuitive, touch-based control

An unobtrusive, 4.3 in. capacitive touch-screen features an easy-to-use interface.

## Complete control at home or away via your smart device

Download our Hx app for iOS smart device and Android, and control your system at home or away via Wi-Fi® or mobile data – virtually anywhere with Internet access.

## Always up-to-date

Installed systems connected via Wi-Fi® receive the latest software updates automatically.

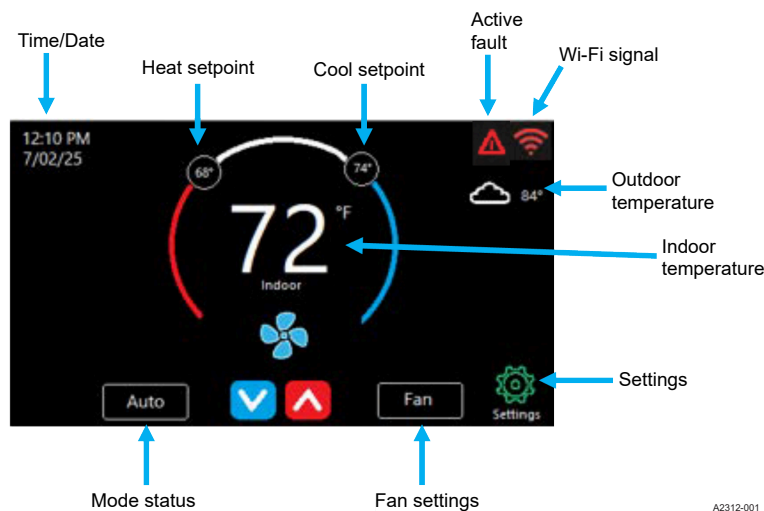
## Easy-access home and away modes

Pre-set modes provide quick access to alternate settings.

**Max Heat and Max Cool** - Select these modes as needed to run equipment at maximum capacity for 10 minutes or until the temperature increases or decreases by 10°F respectively.

## Home screen

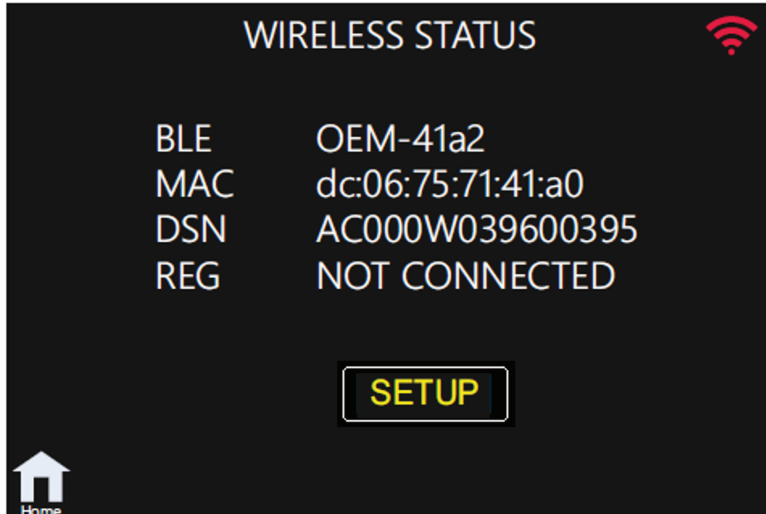
Figure 1: Home screen



## Wi-Fi network status screen

Tap the Wi-Fi icon in the upper-right corner to open the Wireless Status screen and view your connectivity details. Complete the initial setup to connect your thermostat to a Wi-Fi network. Wireless setup must be performed through the Wireless Status screen and the Hx app, as described in the *Thermostat User Manual*.

Figure 2: Wi-Fi network status screen



**NOTICE**

For full thermostat functionality please refer to the *User Manual* and *Installation Manual* located in the thermostat box.

## Start-up

The maximum and minimum conditions for operation must be observed to assure a system that will give maximum performance with minimum service.

**Table 1: Application limitations<sup>1</sup>**

Model	Air temperature at outdoor coil °F				Air temperature at indoor coil °F			
	Minimum		Maximum		Minimum		Maximum	
	DB cool	DB heat	DB cool	DB heat	WB cool	DB heat	WB cool	DB heat
All 14.3 and 16+ SEER2 AC	55	-	125	-	57	-	72	-
YH9/XH9 HPs	55	-10	115	75	57	50 <sup>1</sup>	72	80

**ⓘ Note:**

1. Operation below this temperature is permissible for a short period of time during morning warm-up.

The comfort control switch is assumed to be in the **OFF** position. If the main power supply to the outdoor and indoor units is off, turn the appropriate disconnects to the **ON** position.

Place the system into operation by completing the following steps:

1. Set the temperature adjustment to the desired temperature on your thermostat.
  - Cooling** - The higher the setting, the lower the amount of energy consumed. Federal Guidelines recommend a setting of 78°F.
  - Heating** - The lower the setting, the lower the amount of energy consumed. Federal guidelines recommend a setting of 65°F or lower.

## NOTICE

If your cooling and heating temperature adjustments are separate, be sure to set both.

2. After considering the section, select and set the fan operation mode you desire.
3. Move the comfort control switch to the desired mode of operation (cooling or heating) found on your particular thermostat.

## Power failure

When accidents, wind storms, or other occurrences disrupt electrical power supply to your house, switch thermostat to **OFF** position.

## System operation

### Manual change-over thermostat

**Cooling your home:** With the comfort control switch in the **COOL** position, the system operates as follows:

When the indoor temperature rises above the level indicated by the temperature adjustment setting, the system starts. The outdoor unit operates and the indoor fan circulates the cooled, filtered air. When the room temperature falls to the selected setting, the system shuts off.

**Heating your home:** If your system includes a heating unit and the comfort control switch is in the **HEAT** position, the system operates as follows:

When the indoor temperature drops below the level indicated by the temperature adjustment setting, the system starts. The heating system operates and the indoor fan circulates the filtered air. When the room temperature rises to the selected setting, the system shuts off. Whether heating or cooling, the fan continues to operate if the fan switch was set in the **ON or Intelligent** position. The **AUTO** setting on the fan switch allows the fan to shut off when your system does.

### Electronic thermostat

The electronic thermostat, when programmed, functions automatically to operate the system as follows:

When the indoor temperature rises above the higher (**COOL**) setting, the outdoor unit operates and the indoor fan circulates the cooled, filtered air. When the room temperature falls to the selected level, the system shuts off. The indoor fan either shuts off or runs continuously, depending on your choice of fan switch setting. When the indoor temperature drops below the lower (**HEAT**) setting, the heating system operates and the indoor fan circulates the heated, filtered air. When the indoor temperature rises to the selected setting, the system shuts off. The indoor fan either shuts off or runs continuously, depending on your choice of fan switch setting.

# Maximizing 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 helps 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 senses this extra heat and is not able to maintain the inside temperature to the desired comfort level.

## Cooling conservation

To comfortably cool your home, your air conditioner must remove both heat and humidity. Do not turn your system off even if you are away all day. On a hot day, your system may have to operate between 8 h to 12 h to reduce the temperature in your home to a normal comfort level.

Keep windows closed after sundown. 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 continues to flow into your home for several hours after sunset.

Use your kitchen exhaust fan when cooking. One surface burner on **HIGH** requires 1 ton of cooling. Turn on your bathroom exhaust fan while showering to remove humidity. However, do not run exhaust fan excessively as this decreases 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

It is essential to perform regular periodic preventative maintenance on this equipment. The person most familiar with the equipment in your HVAC system is a dealer.

The dealer can ensure your maintenance program meets the conditions of the 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 the outdoor unit free of foliage, grass clippings, leaves, paper, and any other material which could restrict the correct airflow in and out of the unit. Vacuum the coil to remove any debris from between the fins. 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 the base pan after cleaning the coil.

## Service calls

To avoid unnecessary service calls if the unit stops functioning correctly, check the following items before calling your servicing dealer:

- Indoor section for a dirty filter.

- Outdoor section for a leaf or debris blockage. Eliminate the problem, turn off the thermostat for 10 s, and attempt to start. Wait 5 min. If system does not start, call your servicing dealer.

 **WARNING**

**Risk of fire**

This unit uses a slightly flammable (A2L) refrigerant. The unit must only be repaired or serviced by trained service personnel. Before attempting to repair or service the unit, consult the *Installation Manual*. Follow all safety precautions.

## Filter care

Inspect the air filters 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 the airflow arrow in the same direction as the airflow in your duct. Filters must be clean to assure maximum efficiency and adequate air circulation.

## Clearances

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

**Table 2: Outdoor unit clearances**

Model	Coil clearance area (in.)	Overhead clearance (in.)	Service panel access (in.)	Unit to unit distance (in.)
All 14.3+ SEER2 AC and HP	10	48	24	24

## Parts information

Replacement parts are available from your local contractor/dealer.

## Extended warranty

Special warranty packages (called YORK Care Performance Promise) are available through your contractor. These packages reduce the potential cost of service calls following the first year of operation on your cooling (or heating/cooling) system.

## Some efficiency dos and do nots

**Do not** keep adjusting your thermostat. Moving your thermostat setting does not make your system heat or cool any faster. Adjust your thermostat to a comfortable setting and leave it there.

**Do not** restrict air circulation. Placing furniture, rugs, and other items in such a way that they interfere with air vents makes your system work harder to achieve a comfortable temperature level. This requires more energy, which means greater cost to you.

**Do not** locate lamps or other heat-producing appliances (radios, TVs, heaters) near your thermostat. The heat from these items gives your thermostat false information about the temperature in the room.

**Do** select a comfortable thermostat setting, but keep in mind that moderation in temperature selection saves energy.

**Do** turn on your kitchen exhaust fan when cooking and your bathroom exhaust fan when showering. Also, make sure your clothes dryer is adequately vented. If you neglect these items, this may create an excess heat and humidity condition, causing your air conditioning system to run longer.

**Do** set your thermostat a few degrees lower than normal several hours before entertaining a large group of people in a relatively small area. People give off a considerable amount of heat and moisture in a closed area.

**Do** keep drapes and venetian blinds closed when practical. These items provide insulation against heat loss/gain.

**Do** contact a qualified service person to make repairs or adjustments to your system. They have been trained to perform this service.

## Characteristics of heat pumps

### A constant heat

Heat pumps have a noticeable cooler supply air temperature than furnaces. The common practice of over-sizing 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. 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. This is normal and does not require attention.

### 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 automatically defrosts itself. Steam rising from the outdoor unit is normal and is an indication of correct operation. The vapor cloud only lasts for a few minutes. When the defrost cycle completes, the system automatically switches back to heating. Auxiliary heat is automatically energized to maintain comfort during defrost.

# Limited Warranty - Residential Split Air Conditioning and Heat Pump Units

This Limited Warranty applies in the United States (including Puerto Rico) and Canada ONLY.

JC Residential and Light Commercial LLC or other affiliate identified as the selling entity in the underlying contract or in the relevant terms and conditions of sale is referred to herein as the "Manufacturer".

**Product registration:** For your benefit and protection, register your product with the Manufacturer promptly (no later than 90 days) after installation. This allows us to contact you, should it become necessary. The Limited Warranty does not require registration. Failure to complete registration does not diminish your Limited Warranty rights in any way. You can register your product (within 90 days of the installation) online at [www.upgproductregistration.com](http://www.upgproductregistration.com), by emailing Manufacturer at [cg-upgconsumerrelations@jci.com](mailto:cg-upgconsumerrelations@jci.com), or by calling 1-877-874-7378. When registering, provide your name, address, phone number, Product Model Number, Unit Serial Number, the name of the Participating Dealer (if known), and the Installation Date (if known).

Product Model Number: \_\_\_\_\_

Unit Serial Number: \_\_\_\_\_

Installation Date: \_\_\_\_\_

Participating Dealer: \_\_\_\_\_

**Limited Warranty:** Manufacturer warrants, to the original\* purchaser and consumer (the "Buyer"), the products set forth in the table below (each a "Product") against failure due to defects in workmanship or material under normal use when correctly installed and maintained pursuant to Manufacturer's Installation Manual and User's Information Manual ("Manufacturer's Documentation") and all local, state, and national codes. Upon proper presentation of a request for warranty service or repair (as described below), Manufacturer will repair or replace, at its option, a defective Compressor or other Parts ("Parts" defined as parts of the Product that are not the Compressor or consumable parts or components) without charge, subject to the conditions and exclusions below and according to the terms set forth in this Limited Warranty. Manufacturer reserves the right, at its sole discretion, to provide an equivalent replacement Product instead of repairing the Compressor or other Parts. Alternatively, Manufacturer may at its option, offer a replacement price allowance to be applied toward the purchase of a new Product offered by Manufacturer. The exact allowance amount will be determined at the sole discretion of Manufacturer, based upon, among other things, availability, age of existing Product, and current market conditions. Manufacturer will not be responsible for costs for shipping, ductwork, wiring, piping, or installation. If a replacement Product, Compressor, or Parts are provided by Manufacturer under this Limited Warranty, the Warranty Period (as defined below) for the replacement Product, Compressor, or other Parts is limited to the remainder of the original Warranty Period. With respect to third party parts included in the Products, Manufacturer will pass through the terms of any warranty provided by the applicable third-party manufacturer or supplier to the extent permitted as the sole warranty for any such third-party products parts. This Limited Warranty extends only to the Buyer and is non-transferable.\*

**Limited Warranty Period:** The "Limited Warranty Period" begins on the date the Product is originally installed and ends as set forth in Table 1. If you are unaware of the Warranty Period, contact Consumer Relations at 1-877-874-7378 or [www.upgproductregistration.com](http://www.upgproductregistration.com). If a Product, Compressor or Part is repaired or replaced by Manufacturer under this Limited Warranty, the Limited Warranty Period for the repaired or replaced Product, Compressor, or Part is limited to and shall not extend beyond the remainder of the original Limited Warranty Period.

**Table 3: Limited Warranty Period in years**

Description	Compressor	Parts
R-454B value-tier models: VC3, VC4, VH4	5 years or 10 years <sup>‡</sup>	5 years or 10 years <sup>‡</sup>
R-454B models: RC3, RC4, RH4	5 years or 10 years <sup>‡</sup>	5 years or 10 years <sup>‡</sup>
R-454B models: YC3, XC3, YC4, XC4, YC6, XC6, YH4, XH4, YH5, XH5, YH6, XH6, YH9, XH9	5 years or 10 years <sup>‡</sup>	5 years or 10 years <sup>‡</sup>
R-454B models: XC3 three-phase, XH4 three-phase	5 years	1 year
R-454B models: HH8	5 years or 10 years <sup>‡</sup>	5 years or 10 years <sup>‡</sup>

**Note:**

- ‡To qualify for the extended 10-year warranty for parts and the compressor, the Product must be registered within 90 days of installation for replacement Products or within 90 days of closing for new home construction. In some states or provinces, registration is not required, but proof of installation is required to qualify.
- \*In some states or provinces, the limited warranty is available at no charge to a subsequent owner/homeowner if the product has been used solely for the original residential application. To determine whether your limited warranty is transferrable to a subsequent homeowner (subject to a transfer fee) please contact Manufacturer at 1-877-874-7378.

**Maintenance:** As proper maintenance is a condition to your warranty coverage, Manufacturer strongly recommends coordinating or conducting regular periodic preventive maintenance on the Product. The person most familiar with the equipment in your HVAC system is the Installing or other Participating Dealer, who can best ensure that your maintenance program meets the Limited Warranty conditions, maximize the equipment efficiency, and service your unit within the mandated guidelines with regard to unlawful discharge of refrigerants into the atmosphere.

**Extended Coverage/Additional Protection:** For additional protection, special extended warranty packages, called Residential Home Comfort Plans, are available from a Participating Dealer (defined as authorized and licensed third-party dealers or contractors that install or are authorized to install the Product(s)). The Home Comfort Plans provide you with extended years of warranty coverage as well as service protection, including labor charges not covered under the standard Limited Warranty. Home Comfort Plans must be purchased within one (1) year from the date the original Product is installed or one (1) year of closing for new home construction. Any extended warranty coverage or service protection granted by a Home Comfort Plan shall be governed by the terms and conditions of the Home Comfort Plan.

**Warranty Conditions and Exclusions:**

**This Limited Warranty is void and unenforceable if:**

- The Product serial number is removed, tampered with, defaced, or altered.
- The Product is not sold by an authorized and licensed third-party Participating Dealer that also installs the Product. To verify an authorized Participating Dealer, call 1-877-874-7378.
- The Product is not installed in accordance with Manufacturer’s instructions or local, state, and national codes, is modified without Manufacturer’s authorization, is subjected to improper or faulty storage, shipment, installation, operation, service, or maintenance (or lack of maintenance), unauthorized alteration, tampering, abuse, mishandling, misapplication, or is otherwise removed from its place of original installation.

- The Product is damaged by use or incorporation of improper parts, components or accessories not authorized or approved by Manufacturer or otherwise not compatible or suitable for use in or with the Product. For a list of parts that are known to be compatible, please reference the equipment renewal parts list, contact a Participating Dealer for assistance, or call 1-877-874-7378.
- The Product is damaged due to accident, acts of God or disaster, or other causes beyond the control of Manufacturer, including but not limited to excessive voltage, mechanical shock, inadequacy or interruption of electrical service or fuel supply, water damage, inadequacy or interruption air or water supply, freezing of condenser water or condensate, excessive condensation, corrosive water, atmosphere or environment, intrusion of water or foreign matter, or fouling or restriction of the water circuit by foreign material or like causes.

**This Limited Warranty does not cover and expressly excludes the following:**

- Shipping, labor, refrigerant or material charges.
- Labor or other costs incurred for or in connection with the diagnosing, removing, installing, shipping, servicing, or handling of either defective parts or replacement parts.
- Damages resulting from transportation, installation, or servicing, or from any other issue rendering the Limited Warranty void or enforceable as set forth above.
- Repair or replacement of non-covered parts.
- Normal or routine maintenance or service as outlined in the installation and servicing instructions or owner's manual, including but not limited to cleaning or replacement of filters, nozzles, or orifices, replacement of fuses, either internal or external to the product, or replacement of other consumables or components that must be replaced as part of a regular maintenance program such as oil, refrigerant, filters, belts, and/or batteries.
- Electricity or fuel costs, or increases in fuel or electric costs, for any reason including additional or unusual use of supplemental electric heat.

**DISCLAIMERS AND LIMITATIONS OF LIABILITY**

**This Limited Warranty is exclusive and made in lieu of all other warranties, remedies, rights, or conditions, whether written, oral, or implied other than by operation of law. Except as stated in this Limited Warranty, Manufacturer makes no representations or warranties of any kind. To the maximum extent permitted by applicable law, all warranties implied by operation of law, including the implied warranty of merchantability and fitness for a particular purpose, are specifically limited in duration to the duration of this Limited Warranty.**

**The limited remedies described herein are the sole and exclusive remedies available, and Manufacturer's sole responsibility, under this Limited Warranty. In no event, whether as a result of breach of warranty or contract, tort (including negligence), strict liability, or otherwise, shall Manufacturer be liable to you for special, incidental, indirect, or consequential damages or expenses, including but not limited to loss of use of the Product or associated equipment, lost business, revenues or profits, or the cost of substitute products or equipment, even if Manufacturer was previously advised of or aware of the possibility of such damages and whether or not such damages are foreseeable. In no event shall Manufacturer's aggregate liability under this Limited Warranty or otherwise with respect to the specific Product purchased hereunder, regardless of the cause or fault, exceed the amounts paid by you for the Product (exclusive of installation) giving rise to such liability, however arising, irrespective of the cause of action or theory of liability.**

**This Limited Warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion of limitation of incidental or consequential damages, so the above exclusions and limitations may not apply to you. In addition, the above limitation on consequential damages shall not apply to injuries to persons in the case of consumer goods.**

The above limitations shall inure to the benefit of Manufacturer's affiliates, authorized sellers and distributors, and agents. Manufacturer does not assume, nor does it authorize any other person or entity to assume for Manufacturer, any other liability for the sale of this Product.

**For Warranty Service or Repair:** To request warranty service or repair under this Limited Warranty, notify your Participating Dealer, preferably in writing, as soon as possible after discovery of the problem, and provide the following information:

- your name, address and contact information
- the Product Model Number and Unit Serial Number
- the location of the Product
- proof of purchase and the date the Product was originally delivered and installed
- the Participating Dealer
- a reasonably detailed description of the problem (proof of proper maintenance of the Product may be required)

You may find the Participating Dealer's name on the first page of this Limited Warranty, or on the Product, if they provided it, and you can locate Participating Dealers in your area online at:

- YORK® - <http://www.york.com/Residential-Equipment/Find-a-Dealer>
- Coleman® - <https://www.colemanac.com/residential-equipment/find-a-dealer>
- Luxaire® - <https://www.luxaire.com/residential-equipment/find-a-dealer>
- Champion® - <https://www.championhomecomfort.com/residential-equipment/find-a-dealer>
- Fraser Johnston® - <https://www.fraser-johnston.com/residential-equipment/find-a-dealer>

or contact Manufacturer at 1-877-874-7378 for additional assistance.

If a Participating Dealer response is not received within a reasonable amount of time, notify Manufacturer at: Consumer Relations, 5005 York Dr., Norman, OK 73069, by phone at 1-877-874-7378, or by email at: [cq-upgconsumerrelations@jci.com](mailto:cq-upgconsumerrelations@jci.com). All warranty service or repair will be performed during regular business hours, Monday through Friday 9:00 AM - 5:00 PM. Service requests sent to Manufacturer without prior Dealer contact will be referred to a Participating Dealer.

