

User's Information Manual

Single Package Heat Pump/Electric Heat Models: PHE*



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

Contact information

To contact us online, go to www.york.com, click **Contact Us** and follow the instructions.

To contact us by mail, use the following address:

Johnson Controls Ducted Systems
Consumer Relations
5005 York Drive
Norman, OK 73069

General

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

⚠ WARNING

Cancer and Reproductive Harm – www.P65Warnings.ca.gov

Safety



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**.

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.

⚠ WARNING

This product must be installed and serviced by a qualified installer or service agency. Improper installation, adjustment, alteration, service, or maintenance can cause injury or property damage.

How your system works

It is important to understand how your system works. Your unit works as a heater to heat your home and works as an air conditioner to cool your home.

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 pump)

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 transfers heat from one place to another.

Heating cycle (electric heat)

Your unit may be equipped with an optional electric heating element. This heating element provides additional heat to your home when the outside temperature is very low and there is not enough heat in the outside air to allow the heat pump to keep your home at the required temperature.

Thermostats

Your thermostat is your key to comfort. Although thermostats may vary widely in appearance, they are all designed to perform the same basic function: to control the operation of your air conditioning and heating system.

Regardless of size or shape, each thermostat includes the following:

- A temperature indicator
- A dial, arm, or push button for selecting the required temperature
- A fan switch for selecting the required indoor circulating blower mode
- A comfort switch for selecting the required mode of system operation (heating or cooling)

Only approved thermostats have been tested and are fully compatible with this equipment.

Note: Be aware that many different thermostats operate on batteries or power stealing principles. These types of thermostats can not be supported as trouble free when used with this product.

The manufacturer for each thermostat provides complete operating instructions. Familiarize yourself with the proper operation of your thermostat to obtain maximum comfort levels with minimum energy consumption.

Operating your system

Your thermostat gives you full control of the comfort level in your home. **Do not** turn on the thermostat and turn off the thermostat or switch between cooling and heating modes in rapid succession. This could damage your equipment. Always allow at least 5 min between changes to thermostat settings.

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.***

Types of thermostat

You may have either a manual change-over thermostat or a programmable electronic thermostat.

- **Manual change-over thermostat:** Manual change over means that you must manually position the comfort switch every time you want to switch between cooling and heating operation.
- **Programmable electronic thermostat:** The computerized electronic thermostat is a sophisticated electronic version of a manual change-over thermostat. This thermostat includes features that allow set-back temperature variations for periods of sleep or while you are away during the day, allowing you to make energy savings. The thermostat also features a digital clock.

See **System operation** for more information about how your system operates with each type of thermostat.

Indoor circulating blower settings

Use the fan switch on the thermostat to choose how the indoor circulating blower operates:

- **AUTO:** If you set the fan switch to the **AUTO** position, the indoor circulating blower runs intermittently as required for either heating or cooling. The indoor circulating blower shuts off when there is no heating or cooling operation. This option has the lowest operating cost. If you purchased one of our residential thermostats, they may have an intelligent fan mode that continually circulates the air in occupied mode or when you are at home, and can cycle the indoor circulating blower in unoccupied mode or during the night to further conserve energy.
- **ON:** If you set the fan switch to the **ON** position, the indoor circulating blower operates continuously and does not shut off when there is no heating or cooling operation. The cooling (AC) or heating (heat pump) systems operate as required by your thermostat settings. This provides continuous air filtering and more even temperature distribution to all conditioned spaces.
- **Blower only operation:** On moderate days, usually during spring and fall, when neither heating nor cooling is required, you may want to run only the indoor circulating blower to ventilate, circulate, and filter the air in your home or building. Set the comfort control switch on the thermostat to the **OFF** position and set the fan switch to the **ON** position. Make sure that you reset the switches for normal operation.

Starting up the AC or HP system

Observe the application limitations shown in the unit *Installation Manual* so your system delivers the best performance and requires minimum service.

Note: For this procedure, the comfort control switch on the thermostat is assumed to be set to the **OFF** position.

1. If the main power supply to the unit is off, set the appropriate disconnects to the **ON** position.
2. Set the comfort control switch on the thermostat to the **COOL** or **HEAT** position as required.
3. Set the thermostat to the required temperature.

For cooling, the higher the setting, the lower the amount of energy consumed. Federal guidelines recommend a setting of 78°F.

For 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.

4. Set the fan switch on the thermostat to the required position. See **Indoor circulating blower settings** for more information.

Power failure

When events such as accidents or wind storms disrupt electrical power supply to your house, set the thermostat to the **OFF** position.

System operation

It is important to understand how your system operates when you have a manual change-over thermostat or an electronic thermostat. See **Types of thermostat** for more information.

Manual change-over thermostat

To cool your home, set the comfort control switch on the thermostat to the **COOL** position and set the thermostat to the required temperature. When the indoor temperature rises above the selected temperature on the thermostat, the system starts. The outdoor unit operates and the indoor circulating blower circulates the cooled, filtered air. When the room temperature is lowered to the selected temperature on the thermostat, the system shuts off.

To heat your home, set the comfort control switch on the thermostat to the **HEAT** position and set the thermostat to the required temperature. If the system heat pump and the thermostat both have a call for heat, power is supplied to the compressor and the outdoor fan motor. When the indoor temperature drops below the selected temperature on the thermostat, the system starts up. The heating system operates and the indoor circulating blower circulates the filtered air. When the room temperature is at the selected temperature on the thermostat, the system shuts off. If the heat pump cannot meet the heating demand and the unit is equipped with supplementary electric heat, the thermostat sends a signal through the defrost control to energize the first stage of electric heat.

To manage the indoor circulating blower operation, set the fan switch on the thermostat as required. For continuous operation, set the fan switch to the **ON** position. The indoor circulating blower continues to operate regardless of whether heating or cooling operation is in progress. If you want the indoor circulating blower to shut off when your system does, set the fan switch to the **AUTO** position. See **Indoor circulating blower settings** for more information.

Electronic thermostat

The computerized electronic thermostat, when programmed, functions automatically to operate the system. When the indoor temperature rises above the higher (cool) setting, the outdoor unit operates and the indoor circulating blower circulates the cooled, filtered air. When the room temperature is lowered to the selected level, the system shuts off. The indoor circulating blower either shuts off or runs continuously, depending on your selected fan setting. When the indoor temperature drops below the lower (heat) setting, the heating system operates, and the indoor circulating blower circulates the heated, filtered air. When the indoor temperature rises to the selected setting, the system shuts off. The indoor circulating blower either shuts off or runs continuously, depending on your selected fan setting.

Maximizing operating efficiency

To maximize operating efficiency, take steps to conserve energy and increase energy efficiency, and make sure that system maintenance and servicing is performed as required.

Heating conservation

Adhere to the following:

- Keep storm windows and doors closed all year long, for the most efficient operation. They help to insulate against heat and cold and keep out dirt, pollen, and noise.
- Close drapes at night, keep fireplace dampers closed when not in use, and run exhaust fans only when necessary. This helps you to retain heated air.
- Keep lamps, televisions, or other heat producing sources away from the thermostat. The thermostat senses the extra heat from these sources, and can not maintain the selected indoor temperature.

Cooling conservation

Adhere to the following:

- Be aware that to comfortably cool your home, your air conditioner must remove both heat and humidity. Do not turn your system off 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 the indoor temperature, the air is generally loaded with moisture that is soaked up by furniture, carpets, and fabrics. This moisture must be removed when you restart your system.
- Be aware that the higher the outdoor temperature, the greater the load on your system. 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 set to high requires 1 ton of cooling. Turn on your bathroom exhaust fan while showering to remove humidity. However, do not run exhaust fans excessively, because this decreases efficiency by removing conditioned air.
- Close drapes or blinds and lower awnings on windows that get direct sunlight in the summer.

System care

Regular periodic preventative maintenance must be performed on this equipment. The person most familiar with your heating and cooling system is a dealer. A dealer can do the following:

- Make sure that your maintenance program meets the conditions of the warranty
- Maximize the efficiency of your equipment
- 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 that could restrict the proper air flow in and out of the unit. You can vacuum the coil to remove any debris from between the fins. If the coil becomes excessively dirty, set the main disconnect switch to the **OFF** position, 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.

NOTICE

Do not use a pressure washer as coil fin damage will occur.

Service calls

⚠ WARNING

Your system contains environmentally friendly refrigerant R-410A, which operates at high pressures. You may be in danger if you try to make an attempt to repair your unit. Please contact your local dealer.

There are a few instances where you can avoid unnecessary service calls. If the unit stops functioning correctly, before calling your servicing dealer, do the following:

1. Check the indoor section for a dirty filter. Clean the filter if required.
2. Check the outdoor section for leaf or debris blockage. Eliminate the problem, turn off the thermostat for 10 s, and attempt to start up the system. Wait 5 min. If the system does not start up, call your servicing dealer.

Filter care

Inspect the air filters at least once a month. If they are dirty, wash reusable filters with a mild detergent according to the manufacturer's recommendations. Replace disposable filters with new filters. Install the clean filters with the air flow arrow in the same direction as the air flow in your duct. You must keep filters clean to ensure maximum efficiency and adequate air circulation.

Clearances

Maintain the minimum clearances shown in the following table if patio or yard improvements are done around the outdoor unit.

Table 1: Unit clearances

Direction	Distance (in.)	Direction	Distance (in.)
Top ¹	36	Right side	36
Side opposite ducts	36	Left side	24
Duct panel	0	Bottom ^{2,3}	1

1. Provide a minimum clearance of 1 in. on all sides of the supply air duct for the first 3 ft of the duct for 20 kW and 25 kW heaters (0 in. thereafter). For all other heaters, make sure that there is 0 in. clearance on all sides for the entire length of the supply air duct.
2. Install units outdoors. Make sure that overhanging structures or shrubs do not obstruct the outdoor air discharge outlet.
3. You can install units on combustible materials made from wood or class A, B, or C roof covering materials if the factory base rails are left in place as shipped.

Note: For units installed on a roof curb, you can reduce the minimum clearance between combustible roof curb material and the supply air duct from 1 in. to 1/2 in.

Parts information

Replacement parts are available from your local contractor or dealer.

Energy efficiency

These are some tips for increasing the energy efficiency of your unit:

- Do not adjust your thermostat unnecessarily. Increasing or decreasing the temperature setting on your thermostat does not make your system heat or cool any faster. Set your thermostat to a comfortable setting and only adjust it when required.
- Do not restrict air circulation. If the placement of items such as furniture or rugs interferes with air vents, your system has to work harder to reach selected temperatures. This requires more energy, resulting in higher costs.
- Do not locate lamps or other heat producing appliances such as radios, television sets, and heaters near your thermostat. The heat from these items gives your thermostat false information about room temperature.
- Select a comfortable thermostat setting, but remember that selecting a moderate temperature saves energy.
- Turn on your kitchen exhaust fan when cooking and turn on your bathroom exhaust fan when showering. Make sure your clothes dryer is properly vented. Otherwise, excess heat and humidity can be created, causing your AC system to run for longer.
- 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.
- Keep drapes and venetian blinds closed when practical, because they provide insulation against heat loss or heat gain.
- Contact a qualified service technician to repair or make adjustments to your system. They are trained to perform this service.

NOTES

Limited Warranty

Residential Packaged Units

WARRANTY TERMS: Johnson Controls Ducted Systems (“Company”) warrants this product to be free from defects in factory workmanship and material under normal use and service and will at its option, repair or replace defective parts without charge, subject to the exclusions below and according to the terms outlined in this warranty. Company reserves the right, at its sole discretion, to provide an equivalent complete replacement unit in place of repair parts. Alternatively, Company may at its option, offer a replacement price allowance to be applied toward the purchase of a new unit offered by Company. The exact allowance amount will be determined at the discretion of Company, based upon availability, age of existing equipment and current market conditions, but excluding items as ductwork, wiring, piping, and installation costs. The warranty period for obtaining repaired or replacement parts, or an allowance shall not extend beyond the original warranty period as stated below. In addition, if a replacement unit is provided by Company, the warranty period for the complete replacement unit is limited to the remainder of the original warranty period.

This warranty covers only equipment described by the Product Model Number and Unit Serial Number on the equipment or listed on the Warranty Registration Card, and applies only to products installed in the United States, Canada, or Puerto Rico. Company shall have no responsibility for installation, service, shipping, handling or other costs or charges, except as otherwise provided in this warranty. Tampering, altering, defacing, or removing the product serial number will serve to void this warranty. This warranty extends only to the original consumer purchaser and is nontransferable.

For this warranty to apply, the product must be installed according to Company recommendations and specifications, and in accordance with all local, state, and national codes; and the product or residence must not be removed from its place of original installation. This warranty does not apply to any unit sold over the Internet, by telephone or other electronic means unless the dealer that buys or sells a unit over the Internet, by telephone or other electronic means also installs the unit. In the absence of a recorded Warranty Registration Card, the warranty period will begin upon product shipment from Company.

If you are unaware of the effective warranty date, contact Company at (877) 874-7378 or www.upgproductregistration.com.

ADDITIONAL CONDITIONS FOR HEAT EXCHANGER WARRANTY: This warranty covers heat exchangers (primary and/or secondary), only if:

1. The product has not been operated with an input rate in excess of the rating plate attached to the product.
2. The product has not been allowed to operate without the use of the proper automatic limit control for maximum warm air temperature and/or without adequate air circulation.
3. The product is installed so that combustion air is not contaminated by compounds of chlorine, fluorine, or other damaging chemical vapors.
4. The product is installed such that the heat exchangers are not exposed to return air temperatures below stated ratings.

WARRANTY PERIOD: The warranty period in years, depending on the part, is as shown in the chart below.

Product Tier	Product Model Family	Parts**	Compressor **	Coil **
Standard	PHE*	5 or 10 years*	5 or 10 years*	5 or 10 years*

NOTE: * To qualify for Extended 10-year parts warranty, the unit must be registered online at www.upgproductregistration.com within 90 days of installation for replacement units 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. If not registered, standard warranty terms (5 years for parts, 20 years for heat exchangers) apply.

NOTE: ** All 3 Phase packaged units have 5 year compressor and 1 year parts warranty (Model numbers with 31/41 voltage codes).

MAINTENANCE: Company strongly recommends regular periodic preventive maintenance on this equipment. The person most familiar with the equipment in your HVAC system is a Participating Dealer. The Participating Dealer can ensure that your maintenance program meets the “Company Warranty” conditions, maximize the equipment efficiency, and service your unit within the mandated guidelines with regard to unlawful discharge of refrigerants into the atmosphere.

FOR WARRANTY SERVICE OR REPAIR: Notify the Installing Dealer or a Participating Dealer, preferably in writing, as soon as possible after you have discovered the problem. Be sure to include the Product Model Number, Unit Serial Number, Installation Date, and a description of the problem. You may find the Installing Dealer’s name on this page or on the equipment, and you can locate Participating Dealers online. If a Dealer response is not received within a reasonable amount of time, notify Company at: Johnson Controls Ducted Systems, Consumer Relations, 5005 York Drive, Norman, OK 73069 or by telephone at (877) 874-7378. 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 Company without prior Dealer contact will be referred back to a Participating Dealer. Because this process takes time, it is in the best interest of the Consumer to contact a Participating Dealer directly.

FOR PRODUCT REGISTRATION: For your benefit and protection, register your product with Company promptly after installation. This will initiate the warranty period and allow us to contact you, should it become necessary. You can register your product by returning the Warranty Registration Card on the back page of this Booklet or online at www.upgproductregistration.com.

Product Model Number: _____ Installation Date: _____

Unit Serial Number: _____ Installing Dealer: _____

MAINTENANCE: Company strongly recommends regular periodic preventive maintenance on this equipment. The person most familiar with the equipment in your HVAC system is a Participating Dealer, who can ensure that your maintenance program meets the Company Warranty conditions, maximize the equipment efficiency, and service your unit within the mandated guidelines. For additional buyer protection, Residential Home Comfort Plans are available from a Participating Dealer. These plans provide you with additional years of warranty service protection including labor charges. Home Comfort Plans must be purchased within one (1) year from the date the equipment was installed.

EXCLUSIONS: This warranty does not cover any of the following:

1. Shipping, labor, or material charges or damages resulting from transportation, installation, or servicing.

2. Damage or repairs required as a consequence of mishandling, faulty installation, misapplication, abuse, improper servicing, improper operation, or unauthorized alteration.
3. Damages or failure to start resulting from improper voltage conditions, blown fuses, open circuit breakers, or other inadequacy or interruption of electrical service or fuel supply.
4. Fuses, either internal or external to the product.
5. Labor or other costs incurred for diagnosing, repairing, removing, installing, shipping, servicing, or handling of defective/replacement parts.
6. Products removed from their original location for re-installation purposes.
7. Damages resulting from accident, abuse, fire, flood, alteration, or acts of God.
8. Damages resulting from use of the product in a corrosive atmosphere.
9. Normal maintenance costs are not covered.
10. Damages resulting from failure to perform normal maintenance as shown in installation and servicing instructions or owner's manual.
11. Cleaning or replacement of filters, nozzles, or orifices.
12. Damages resulting from operation with inadequate supply of air or from damages resulting from failure to properly and regularly clean air side of condenser and evaporator.
13. Damages resulting from freezing of condensate water or improper drainage of condensate from the furnace.
14. Damages caused by improper parts, components or accessories not suitable for use in or with the unit. For a list of parts that are known to be compatible, reference equipment repair parts list, contact a Participating Dealer for assistance, or call 1-877-874-7378.
15. Electricity or fuel costs or increases in fuel or electric costs, for any reason including additional or unusual use of supplemental heat.

This warranty is in lieu of all other express warranties. All implied warranties, including the implied warranty of merchantability and fitness for a particular purpose are limited in duration to the actual warranty period applicable to the part. Some states do not allow the disclaimer of implied warranties, so the above disclaimer may not apply to you. In addition, some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. In no event, whether as a result of breach of warranty or contract, tort (including negligence), strict liability, or otherwise, shall Company be liable for special, incidental, or consequential damages or expenses, including but not limited to loss of use of the equipment or associated equipment, lost revenues or profits, cost of substitute equipment, or cost of fuel or electricity.

The above limitations shall inure to the benefit of Company's suppliers and subcontractors. The above limitation on consequential damages shall not apply to injuries to persons in the case of consumer goods. Company does not assume, or authorize any other person to assume for Company, any other liability for the sale of this product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you. This warranty gives you specific legal rights. You may also have other rights which vary from state to state.