



OWNER'S MANUAL

HEAT PUMP WATER HEATER

Read this owner's manual thoroughly before operating the appliance and keep it handy for reference at all times.

ENGLISH

ESPAÑOL



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SAFETY INSTRUCTIONS

READ ALL INSTRUCTIONS BEFORE USE

Your safety and the safety of others are very important.

We have provided many important safety messages in this manual and on your appliance. Always read and follow all safety messages.

 This is the safety alert symbol.

This symbol alerts you to potential hazards that can kill or injure you and others.

All safety messages will follow the safety alert symbol and either the word DANGER, WARNING or CAUTION. These words mean:

CAUTION

You may be slightly injured or cause damage to the product if you do not follow instructions.

WARNING

You may be killed or seriously injured if you do not follow instructions.

DANGER

This indicates that the failure to follow the instructions will cause serious injury or death.

All safety messages will tell you what the potential hazard is, tell you how to reduce the chance of injury, and tell you what may happen if the instructions are not followed.

WARNING

To reduce the risk of explosion, fire, death, electric shock, injury or scalding to persons, instructions in this manual must be followed.

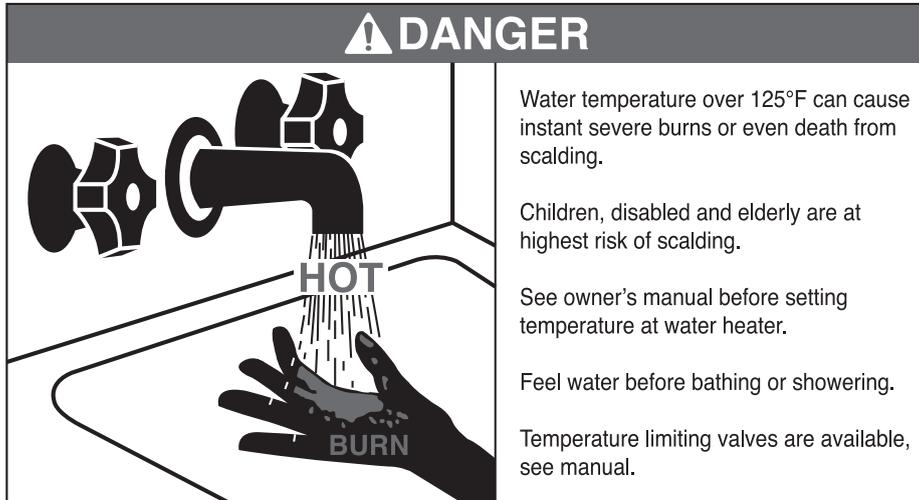
Be sure to fully understand the user's manual before you install and operate this appliance. If you have any difficulty in understanding or following the instructions in this manual, or have any questions, contact an authorized service center or the local electric utility.

Safety Precaution

Water Temperature Setting

! DANGER

Water temperature above 125°F can cause severe burns instantly or death from scalding. Be sure to read and follow the warnings on the label pictured below. This label is also located on the front of the water heater.



For determining the proper water temperature for your home, refer to the chart below.

Temperature	Time to Produce a Serious Burn
120°F(49°C)	More than 5 minutes
125°F(52°C)	1 ½ to 2 minutes
130°F(54°C)	About 30 seconds
135°F(57°C)	About 10 seconds
140°F(60°C)	Less than 5 seconds
145°F(63°C)	Less than 3 seconds
150°F(65°C)	About 1 ½ seconds
155°F(68°C)	About 1 second

NOTE

- To reduce point of use water temperature, Thermostatic Mixing Valves are recommended. These valves automatically mix hot and cold water in branch water lines. It is recommended to use a mixing valve complying with the Standard for Temperature Actuated Mixing Valves for Hot Water Distribution Systems, ASSE 1017. Contact a qualified person or local plumbing authority for more information.

! DANGER

Households with the elderly, children, or people with disabilities may require a 120°F or lower thermostat setting to prevent contact with “HOT” water.

 **DANGER****Higher water temperature increases the potential for Hot Water SCALDS**

Water temperature in the heater is regulated by the buttons on display. The water temperature of this water heater is factory set to 120°F to comply with safety regulations. For information about adjusting the water temperature, refer to the operation section in this manual.

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For Use in The State of California

The state of California requires that residential water heaters must be braced, anchored or strapped to avoid falling or horizontal displacement during an earthquake. Contact local utilities for code requirements in your area.

Local Installation Regulations

This appliance must be installed accordance with instructions of this manual, local codes, utility codes, utility company requirements or, if there is no local codes, the latest edition of the National Electrical Code.

Important Safety Instructions

WARNING

To reduce the risk of explosion, fire, death, electric shock, scalding or injury to persons when using this product, follow basic precautions, including the following:

Children in the Household:

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

INSTALLATION

- Be sure your appliance is properly installed in compliance with local codes and the provided installation instructions.
- Do not replace any part of your water heater and use only original accessories and spare part unless it is specifically recommended in this manual.
- Do not turn on the electrical power to water heater unless the tank is completely full of water.
- Never attempt to operate this appliance if it is damaged, malfunctioning, partially disassembled, or has missing or broken parts.
- When the product is soaked (flooded or submerged) in water, contact an Authorized Service Center for repair before using it again.
- To reduce the risk of severe injury or death, follow all installation instructions.
- Moving or installation of the appliance requires two or more people.
- Turn off the power by opening the circuit breaker or removing the fuses before installing.
- Even if the water heater thermostat is set to relatively low, hot water has the potential for scalding. To reduce the risk of scalding, thermostatic mixing valves are recommended.
- Keep packing materials out of the reach of children. Packaging material can be dangerous for children. There is a risk of suffocation.
- Destroy the carton, plastic bag, and other packing materials after the appliance is unpacked. Children might use them for play. Cartons covered with rugs, bedspreads, or plastic sheets can become airtight chambers.
- Connect to a properly rated, protected, and sized power circuit to avoid electrical overload.
- This appliance must be positioned near to an electrical power supply.
- Do not install the water heater on an unstable surface or in a place where there is danger of it falling.
- Contact an authorized service center when installing or relocating water heater.
- Do not install the water heater in a place where flammable liquids or gases such as gasoline, propane, paint thinner, etc., are stored.
- This appliance must be properly grounded to minimize risk of electric shock.
- The information contained in the manual is intended for use by a qualified service technician who is familiar with the safety procedures and equipped with the proper tools and test instruments.

- Install the panel and the cover of the control box safely.
- Do not touch heat exchanger fins with your bare hands. Otherwise, you may get a cut in your hands.
- Do not input air or gas into the system except with the specific refrigerant.
- Do not turn on the circuit breaker or power when covers are removed or opened.

OPERATION

- Read all instructions before using the appliance and save these instructions.
- Use this appliance only for its intended purpose.
- If the water heater has been subjected to fire, flood or physical damage, disconnect all power to water heater immediately, and DO NOT operate it again until it has been inspected by a qualified person.
- Do not turn on the water heater unless the tank is completely full of water.
- Do not turn on the water heater if cold water supply shut-off valve is closed.
- Feel water before bathing or showering.
- Even at 120°F, hot water can scald.
- Do not block the inlet or outlet of air flow.
- Never touch, operate, or repair the water heater with wet hands.
- Do not leave flammable substances such as gasoline, benzene, or thinner near the water heater.
- Cut off the power supply if there is any noise, smell, or smoke coming from the water heater.
- Make sure that the power cable is neither dirty, loose, nor broken.
- Do not place any objects on the power cable.
- Do not modify or extend the power cable. Scratches or peeling insulation on the power cables may result in fire or electric shock, and should be replaced.
- If the supply cord is damaged, it must be replaced by the manufacturer or its service agents or similarly qualified person in order to avoid a hazard.
- Do not expose people, animals, or plants to the cold wind from the water heater for extended periods of time.

MAINTENANCE

- Do not repair or replace any part of the appliance. All repairs and servicing must be performed by qualified service personnel unless specifically recommended in this owner's manual. Use only authorized factory parts.
- Disconnect this appliance from the power supply before cleaning and attempting any user maintenance.
- Before draining water heater, turn off the power to product.
- Do not turn on the electrical power to the water heater unless the tank is completely full of water.

 **CAUTION**

To reduce the risk of minor injury to persons, malfunction, or damage to the product or property when using this product, follow basic precautions, including the following:

INSTALLATION

- Install the product on a firm and level floor.
- Do not install the water heater in a place where leakage of the tank or connections will result in damage to the area adjacent to it or to lower floors of the structure. Where such areas cannot be avoided, it is recommended that a suitable drain pan, adequately drained, be installed under the water heater.
- Install the water heater in a place where the noise from the water heater will not inconvenience the neighbors.
- Install the drain hose properly for the smooth drainage of water condensation.
- Be sure to check if there is a refrigerant leak after installing or repairing the water heater.
- To reduce the risk of excessive pressures and temperatures in this water heater, install temperature and pressure protective equipment required by local codes and no less than a combination temperature and pressure relief valve certified by a nationally recognized testing laboratory that maintains periodic inspection of production of listed equipment or materials, as meeting the requirements for Relief Valves and Automatic Gas Shutoff Devices for Hot Water Supply Systems, ANSI Z21.22. This valve must be marked with a maximum set pressure not to exceed the marked maximum working pressure of the water heater. Install the valve into an opening provided and marked for this purpose in the water heater, and orient it or provide tubing so that any discharge from the valve exits only within 6 inches above, or at any distance below, the structural floor, and does not contact any live electrical part. The discharge opening must not be blocked or reduced in size under any circumstances.

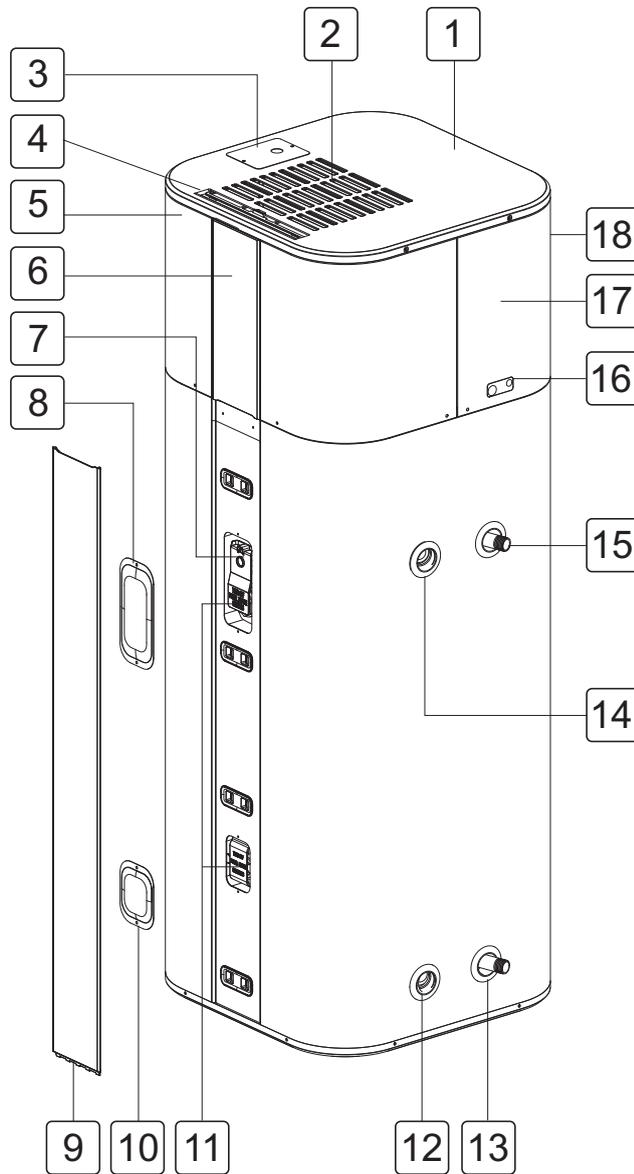
OPERATION

- Do not place objects on top of the appliance.
- Do not use this appliance if any part have been underwater. Immediately contact an Authorized Service Center for replace flooded water heater. Do not attempt to repair the unit. It must be replaced.
- Turn off the power and water supply to water heater and drain water heater if the appliance is to be left for an extended period of time, such as during vacations.
- Hydrogen gas is produced in a hot water system served by this heater that has not been used for a long period of time (2 weeks or more). **HYDROGEN GAS IS EXTREMELY FLAMMABLE.** To reduce the risk of injury under these conditions, it is recommended that the hot water faucet be opened for several minutes at the kitchen sink before using any electrical appliance connected to the hot water system. When hydrogen is present, there will probably be an unusual sound such as air escaping through the pipe as the water begins to flow. There should be no smoking or open flame near the faucet at the time it is open.

SAVE THESE INSTRUCTIONS

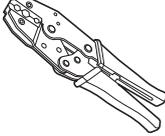
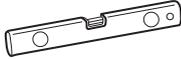
INSTALLATION

Parts and Functions



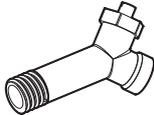
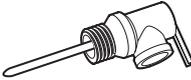
- 1 Top cover
- 2 Air intake vents
- 3 Junction box
- 4 Air filter
- 5 Front panel
- 6 Display decor / Control panel
- 7 ECO
- 8 Upper element cover
- 9 Front decor
- 10 Lower element cover
- 11 Heating element
- 12 Opening for drain valve
- 13 Water inlet
- 14 Opening for T&P relief valve
- 15 Water outlet
- 16 Condensate drain
- 17 Rear panel
- 18 Air outlet Vents

Installation Tools

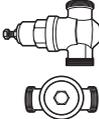
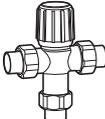
Figure	Name	Figure	Name
	Screw driver		Teflon tape
	Spanner		Wire stripper
	Multi-meter		Hand crimper
	Crimp cap		Level

Accessories

Included Accessories:

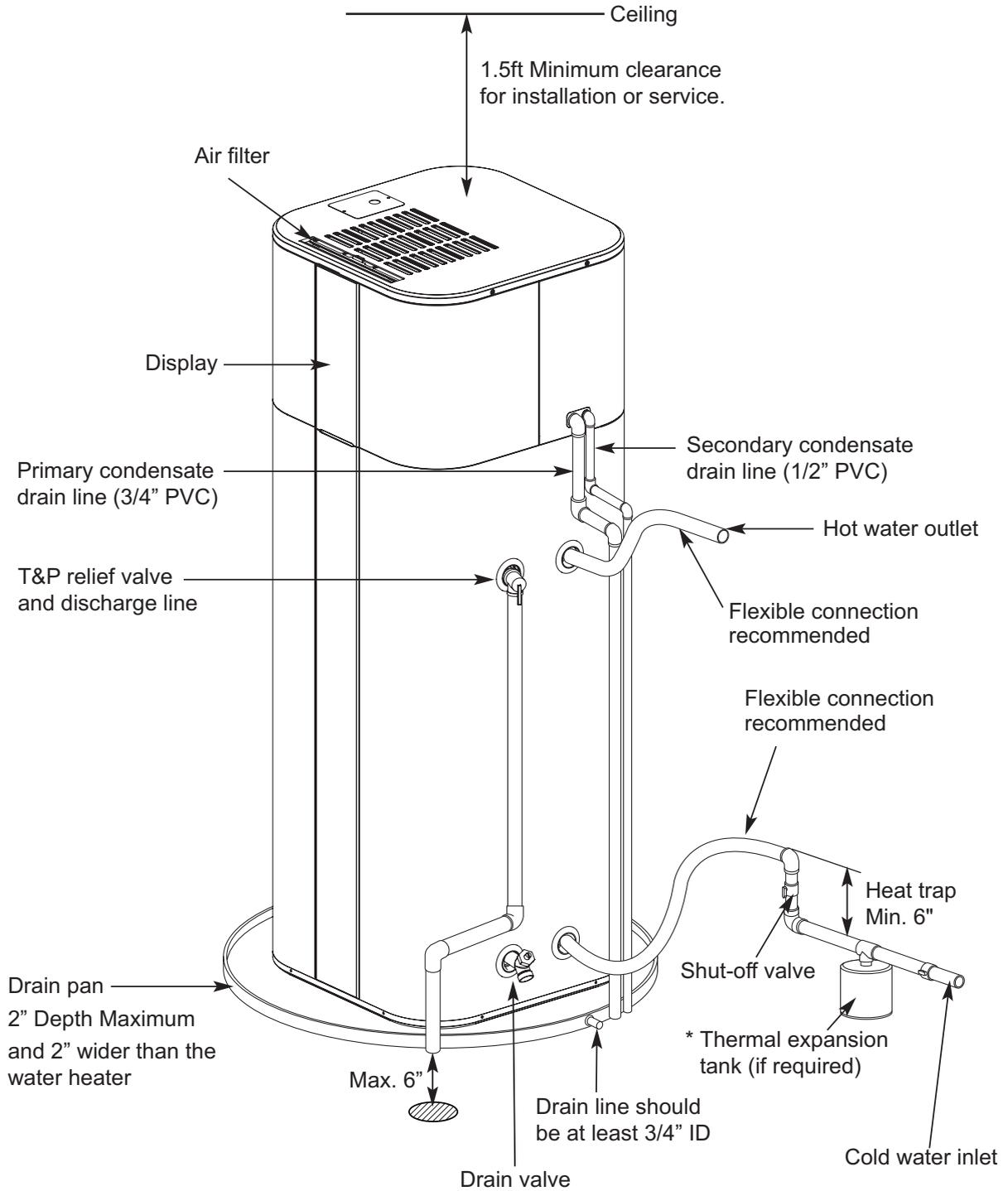
Figure	Name	Figure	Name
	Drain valve		T&P relief valve

Recommended Accessories:

Figure	Name	Figure	Name
	Drain pan		Thermal expansion tank
	Pressure reducing valve		Thermostatic mixing valve

Installation Instructions

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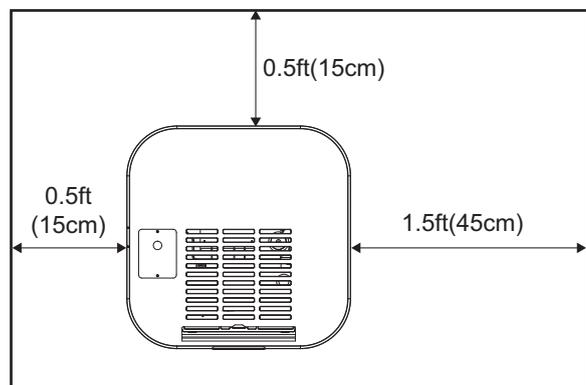
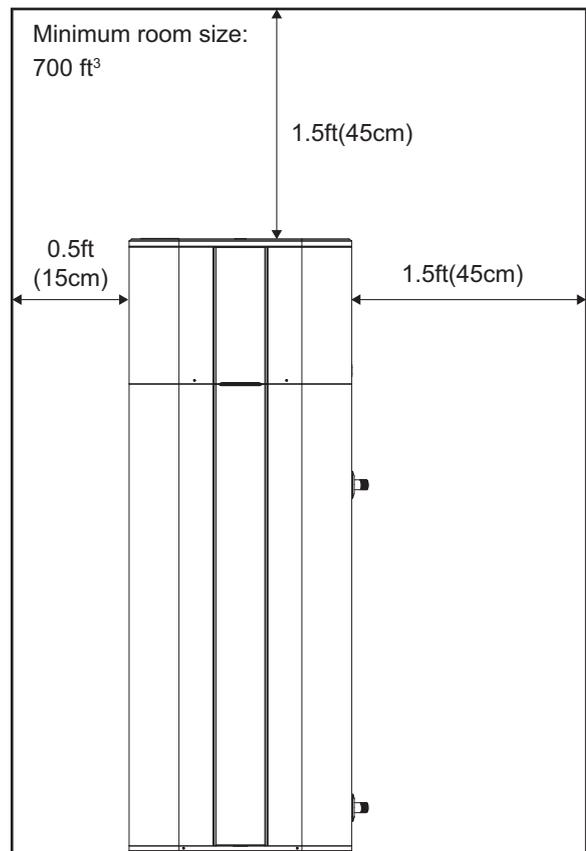
* In closed system, connect a thermal expansion tank to cold water supply line. See "Thermal Expansion" Section (p.13).

Select the best Location

NOTE

- Installation in a confined space without proper ventilation will lead to higher power consumption.
- Auxiliary drain pan **MUST** be installed in compliance with local codes. Drain pan kits are available from the store where the water heater purchased, or any water heater distributor. Drain pan should not obstruct cold water inlet or drain valve.
- Select space where has enough space for periodic servicing. The air filter, covers, and front panels can be removed to permit inspection and servicing.
- Take the weight of the water heater into account and select a place where the floor is strong enough to support the weight of full water heater.
- The water heater and water lines should be protected from freezing and high corrosive elements. Do not install water heater in outdoor or unprotected areas.
- Install the water heater close to the area of the greatest heater water demand and the center of plumbing system. Long uninsulated hot water lines can waste energy.
- Insufficient air exchange will result in increased energy consumption level.
- The installation site must be over 34 °F(1 °C).

Minimum Clearances



NOTE

- For future service, a minimum 3 feet clearance between any object and the left, right and back side is recommended.

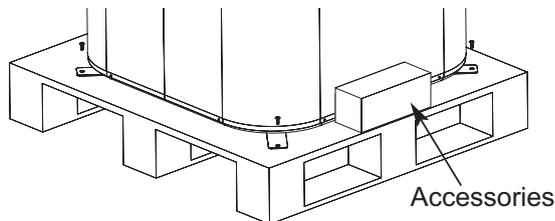
Unpacking and Removing Shipping Bolts

NOTE

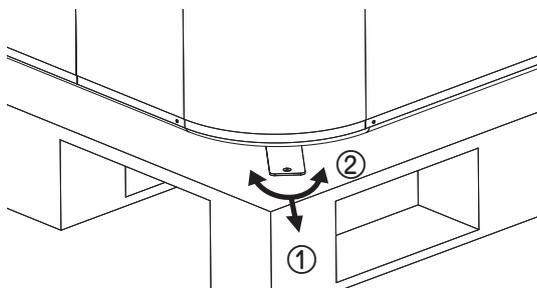
- Accessories (drain valve and T&P relief valve) are attached on pallet. Keep it for installation.

Unpack all shipping materials from the water heater for proper operation and inspect it for shipping damage.

- 1 Remove carton and shipping materials.
- 2 Remove the screws from the shipping brackets.



- 3 Pull out the shipping brackets.



- 4 Slightly tip the water heater and carefully roll the water heater off the pallet.

Thermal Expansion

Determine if a check valve is present on the inlet water line. Check with your local water utility. A check valve located in cold water inlet line will create a "closed water system". As water is heated, it creates an increase in pressure within the water system because the increased volume of water doesn't have a place to go.

Referred to as "thermal expansion", the rapid pressure increase can quickly reach the safety setting of the relief valve. This will cause the relief valve to open during each heating cycle. We recommend installing an expansion tank to control thermal expansion.

Connect the thermal expansion tank to the cold water supply line (see Installation Instructions). For additional information, contact installing contractor, plumbing inspector, or water supplier.

Installing Drain Pan

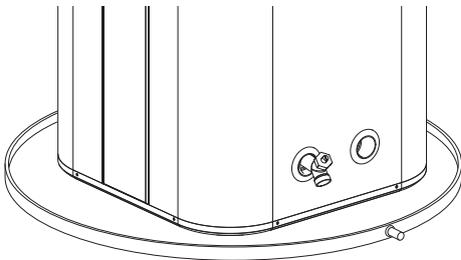
NOTE

- Most codes require placing the water heater on a suitable drain pan piped to an adequate drain.

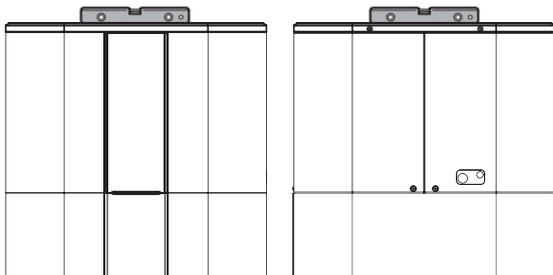
The drain pan helps to prevent property damage which may occur from condensation or leaks in the piping connections or tank.

- 1 Install a suitable drain pan piped to an adequate drain.

- 2 Place water heater on drain pan.



- 3 Ensure the water heater is horizontal using a spirit level.



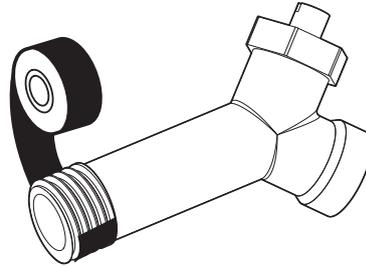
NOTE

- Drain valve and T&P relief valve is included in packing box of the water heater. They must be installed in the opening provided for this purpose.

Installing Drain Valve

Use drain valve included in packing.

- 1 Apply Teflon tape on the NPT end to prevent leaking.

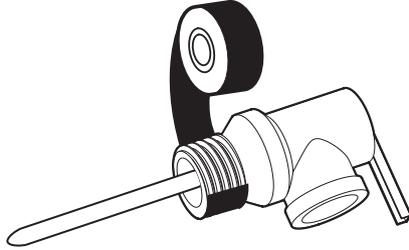


- 2 Install the drain valve in the opening marked "Drain Valve".

Installing T&P Relief Valve

Use T&P relief valve included in packing.

- 1 Apply Teflon tape on the NPT end to prevent leaking.



- 2 Install the T&P relief valve in the opening marked T&P relief valve.

Connecting T&P Relief Valve Discharge Pipe

! WARNING

The pressure rating of the relief valve must not exceed 150PSI, the maximum working pressure of the water heater as specified on the data plate.

! WARNING

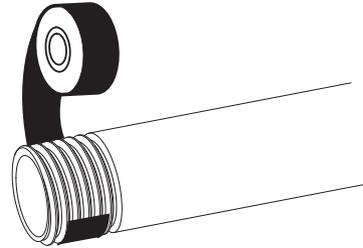
DO NOT connect any valve or other restriction to the T&P plumbing. DO NOT connect the T&P plumbing to the condensate plumbing. It must be directly piped to an adequate open drain.

Install T&P Relief Valve discharge pipe according to local codes and the following instructions.

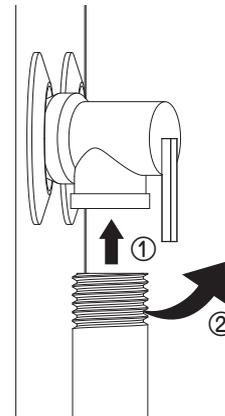
- The inside diameter of the discharge pipe must be at least 3/4".
- The discharge pipe must be approved for hot water distribution and withstand 210°F without distortion.

- The end of the discharge pipe should not be threaded or concealed and should be protected from freezing.
- Do not insert or install any type of valve, restriction, or reducer coupling in the discharge pipe.

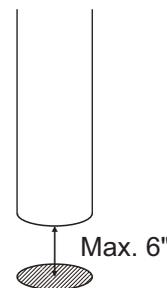
- 1 Apply Teflon tape on the NPT end to prevent leaking.



- 2 Attach the discharge pipe to outlet of the T&P relief valve. The discharge pipe must pitch downward from the valve to allow complete drainage of both T&P relief valve and discharge pipe.



- 3 The end of the discharge pipe must stop no more than six inches above the floor drain or outside.



Installing Condensate Drain Lines

NOTE

- When making drain fitting connections to the drain tubing, **DO NOT** overtighten. Overtightening fittings could crack or damage the condensate drain pan.
- Condensate from this unit is not acidic.

The condensate drain lines and connections to the drain piping must meet state and local codes.

Do not reduce the drain line size to less than the condensate connection size provided.

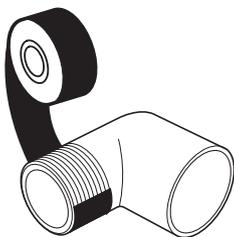
Ensure that the condensate drain lines maintain a downward slope for proper drainage.

The drain line should be insulated to prevent condensation from forming on the outside of the drain line.

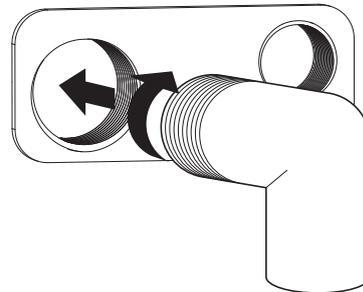
Do not allow condensate to drain into water heater drain pan.

If no floor drain is available or the drain is above the level of the condensate line, then a common condensate pump with a capacity no less than 2 gallon per day must be installed.

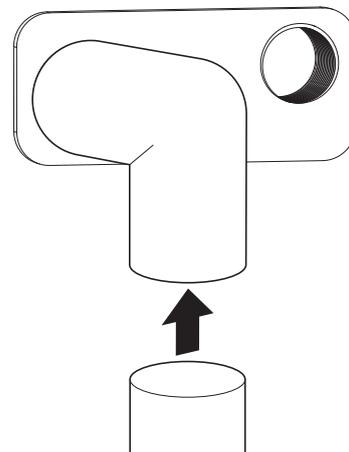
- 1 Apply Teflon tape on the NPT end to prevent leaking.



- 2 Attach elbow with 3/4" slip & 3/4" NPT to the primary drain connection.



- 3 Using an approved sealant, insert the PVC pipe into the female end. Condensate drain must be piped to an adequate drain.



- 4 Using 1/2" PVC piping, an elbow with 1/2" slip & 1/2" NPT, and an approved sealant, attach the elbow to secondary drain connection and insert the PVC pipe into the female end.

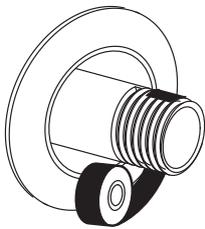
Connecting the Water Supply

NOTE

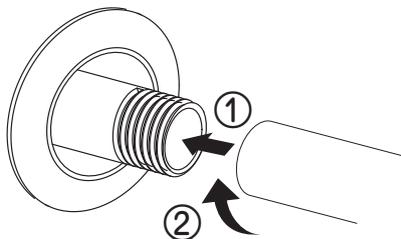
- DO NOT directly solder or braze to hot or cold water connections. If sweat connections are used, sweat tubing to adapter before installing the adapter to the hot or cold water connections on heater. Any heat applied to the water supply fittings will permanently damage the internal plastic lining in these ports.

Refer to “Installation Instructions” for suggested typical installation.

- 1 Check the type of water pipes in your home. Use fittings adequate for the type of pipe in your home.
- 2 Apply Teflon tape on the NPT end to prevent leaking.



- 3 Connect cold and hot water supply using 3/4" NPT.



For ease of disconnecting the water heater for service or replacement, the installation of unions is recommended on the water connections.

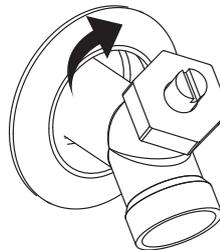
- 4 Install a shut-off valve in the cold water line near the water heater.
- 5 Install the insulation on the cold and hot water pipes. Insulating hot water pipe can increase energy efficiency.

To Fill the Water Heater

⚠ WARNING

Do not turn on the electrical power to water heater unless the tank is completely full of water. The water heater warranty does not cover damage or failure resulting from operation with empty or partially empty tank.

- 1 Make sure that the drain valve on water heater is completely closed.



- 2 Turn on the cold water supply
- 3 Open each hot water faucet slowly and allow the water to run until it flows with a full stream.
- 4 Let the water run full stream for a few minutes.

Making Electrical Connections

WARNING

Disconnect all power before working on any electrical connections.

NOTE

- All wiring must conform to local codes or National Electrical Code ANSI/NFPA 70.

A separate branch circuit with copper conductors, overcurrent protective device and suitable disconnecting means must be provided by a qualified electrician.

The voltage requirements and wattage load for the water heater are specified on the data plate on the right side of the water heater.

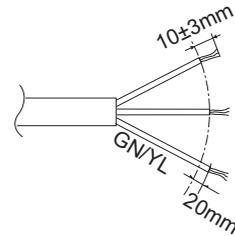
Ensure that the fusing or circuit breaker is proper size for this water heater (Recommended 30 amp breaker).

The branch circuit wiring should include either:

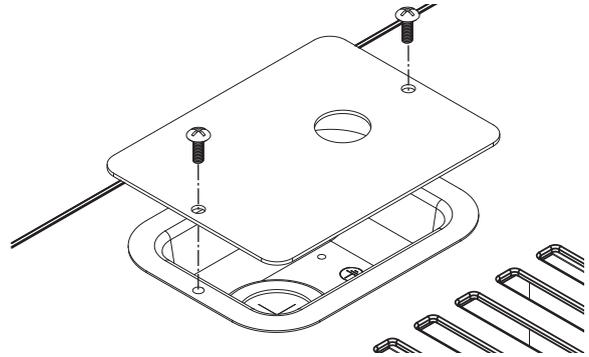
- 1 Metallic conduit or metallic sheathed cable approved for use as a grounding conductor and installed with fittings approved for the purpose.
- 2 Non-metallic sheathed cable, metallic conduit or metallic sheathed cable not approved for use as a ground conductor shall include a separate conductor for grounding. It should be attached to the ground terminals of the water heater and the electrical distribution box.

NOTE

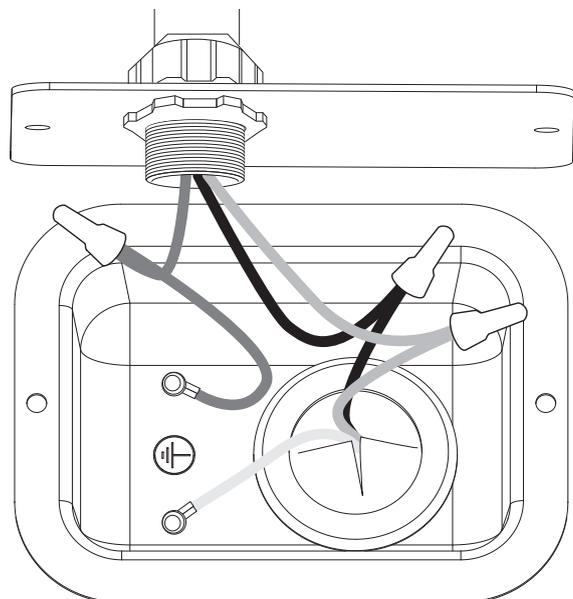
- Use flexible conduit only.
- Use crimp type connector for wiring.
- The ground wire should be longer than the common wires.



- 1 Make certain the electrical power is turned off.
- 2 Remove junction box cover from the unit by loosening the 2 screws.



- 3 Connect the ground to the green ground wire, and the home's two power wires to the water heater's two power wires.



Safety Controls

CAUTION

You must have a qualified person investigate the cause of the high temperature condition and take corrective action before placing the water heater in service again.

There is temperature limiting control(ECO) that is located above the upper heating element. If the water temperature becomes excessively high, the temperature limiting control(ECO) shuts off the power to the heating elements. Once the control opens, it must be reset manually.

To reset temperature limiting control(ECO):

- 1** Turn off the power by opening the circuit breaker or removing the fuses.
- 2** Remove the front decor and upper element cover.
- 3** Press the red ECO RESET button.

Insulation Blanket Kits

External insulation blanket, available to the general public, for water heater is not necessary.

The manufacturer's warranty does not cover any damage or failure caused by installing or using any type of unauthorized energy-saving or other devices.

The manufacturer is not responsible for any injury or loss resulting from the use of such unauthorized devices.

CAUTION

If local codes require application of any external insulation blanket kit to water heater, it will require careful attention so as not to restrict the proper function and operation of this appliance:

- DO NOT block the air openings of the water heater.
- DO NOT cover or attempt to relocate the information or warning labels attached to the water heater.
- DO NOT cover the control panel, T&P relief valve, drain valve, and junction box.
- Inspect the blanket frequently.

Installation Checklist

Location

- Sufficient room for air exchange and periodic service.
- Floor is strong enough to support water heater.
- Indoor and protected from high corrosive elements.
- Close to the area of heater water demand.
- Over 34 °F(1 °C).
- Area free of flammable liquids and gases.

Drain valve

- Drain valve properly installed.

T&P relief valve

- T&P relief valve properly installed.
- Discharge line maintains a downward slope and runs to adequate drain.
- Discharge pipe protected from freezing.

Condensate Drain

- Drain lines maintain a downward slope and run to adequate drain.

Water supply

- Tank is completely full of water.
- Remove air from water heater and piping.
- Water connections tight and free of leakage.
- Flexible water connections recommended.

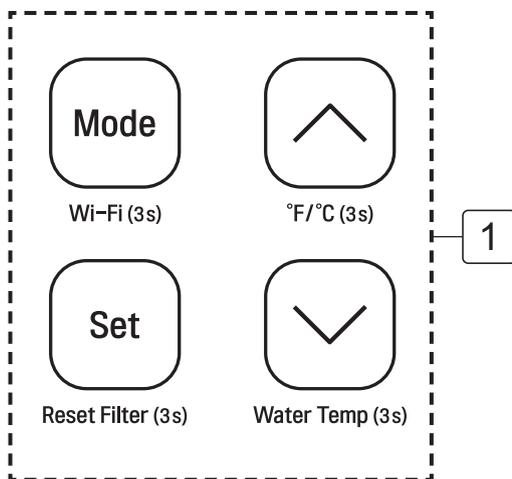
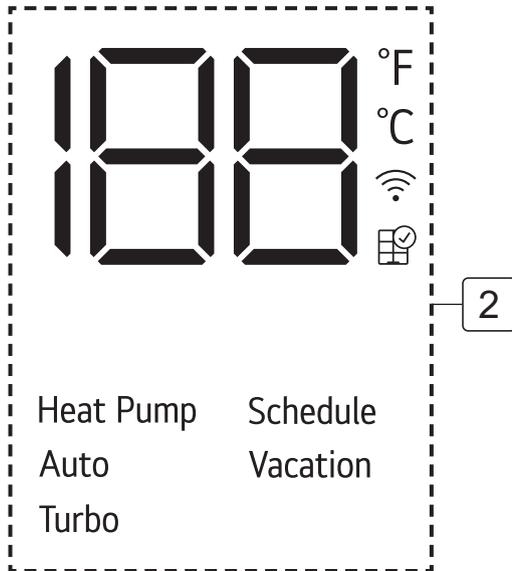
Wiring

- Power supply voltage agree with rating voltage on data plate.
- Proper size of branch circuit wire and fusing or circuit breaker.
- Unit properly grounded.

OPERATION

Using Basic Control

DISPLAY SCREEN



1 Button	2 Display Screen	Description
Mode	Heat Pump	To select the heat pump mode.
	Auto	To select the auto mode.
	Turbo	To select the turbo mode.
	Vacation	To select the Vacation mode.
-	Schedule	Set schedule mode only in LG ThinQ application.
Set	-	To set the desired water temperature.
^ v	18.8	To adjust the desired water temperature.
Wi-Fi (3s)	Wi-Fi	To enable the Wi-Fi pairing.
Reset Filter (3s)	Filter Alarm	To reset the filter alarm.
°F/°C (3s)	°F °C	To change unit between °F and °C.
Water Temp (3s)	18.8	To display the current water temperature for 5 seconds.

Water Temperature Adjustment

DANGER

Higher water temperature increases the potential for Hot Water SCALDS.

The water temperature will be maintained according to the setting temperature on Display and can be adjusted from 95°F to 140°F.

- 1 Press  or  button to select the water temperature.
- 2 Press **Set** button to finish.

Operation Mode

- Press **Mode** button repeatedly to select the operating mode.

The active mode is displayed on the display screen.

HEAT PUMP MODE

This mode minimizes power consumption by using only heat pump for heating, but has low recovery.

AUTO MODE

This mode is factory set mode for shipping.

This mode provides relatively low power consumption and high recovery. This mode primary uses heat pump for heating.

Heating elements will provide supplementary heating, if demand is more than the heat pump can keep up by itself.

TURBO MODE

This mode provides the highest recovery. This mode uses heat pump and heating element simultaneously.

VACATION MODE

This feature is recommended when the water heater is not in used for an extended period of time. In this mode, tank temperature will be maintained at about 68 °F(20 °C) to minimize energy consumption and prevent the water heater from freezing.

The vacation duration can be set or modified between 1 and 90 days via LG ThinQ app.

CAUTION

Hydrogen gas can be produced in a hot water system when it is no used for a long period (generally two weeks or more).
HYDROGEN GAS IS EXTREMELY FLAMMABLE.

Reset the Air Filter Alarm

The device will display alarm () reminding you to check and clean the air filter periodically.

- Press and hold **Set** button about 3 seconds to reset the alarm.

Change Temperature Unit

Temperature unit display on Screen can be set to Fahrenheit or Celsius

- Press and hold  button about 3 seconds to change temperature unit.

Current water Temperature

- Press and hold  button about 3 seconds

Display will show current water temperature of the tank for 5 seconds.

Wi-Fi PAIRING FUNCTION

Once it is connected to the internet through a home Wi-Fi network, you can control the appliance remotely with the application for the smart phone. See "SMART FUNCTION" section for details.

- Press and hold **Mode** button about 3 seconds.
 is displayed on the display screen.

SMART FUNCTIONS

LG ThinQ Application

This feature is only available on models with the

 or **ThinQ** logo.

The **LG ThinQ** application allows you to communicate with the appliance using a smartphone.

LG ThinQ Application Features

Communicate with the appliance from a smartphone using the convenient smart features.

Settings

Allows you to set various options on the appliance and in the application.

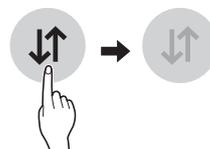
NOTE

- If you change your wireless router, internet service provider, or password, delete the registered appliance from the **LG ThinQ** application and register it again.
- The application is subject to change for appliance improvement purposes without notice to users.
- Functions may vary by model.

Before Using LG ThinQ Application

- 1 Check the distance between the appliance and the wireless router (Wi-Fi network).
 - If the distance between the appliance and the wireless router is too far, the signal strength becomes weak. It may take a long time to register or installation may fail.

- 2 Turn off the **Mobile data** or **Cellular Data** on your smartphone.



- 3 Connect your smartphone to the wireless router.



NOTE

- To verify the Wi-Fi connection, check that  icon on the control panel is lit.
- The appliance supports 2.4 GHz Wi-Fi networks only. To check your network frequency, contact your Internet service provider or refer to your wireless router manual.
- **LG ThinQ** is not responsible for any network connection problems or any faults, malfunctions, or errors caused by network connection.
- If the appliance is having trouble connecting to the Wi-Fi network, it may be too far from the router. Purchase a Wi-Fi repeater (range extender) to improve the Wi-Fi signal strength.
- The Wi-Fi connection may not connect or may be interrupted because of the home network environment.
- The network connection may not work properly depending on the Internet service provider.
- The surrounding wireless environment can make the wireless network service run slowly.

- The appliance cannot be registered due to problems with the wireless signal transmission. Unplug the appliance and wait about a minute before trying again.
- If the firewall on your wireless router is enabled, disable the firewall or add an exception to it.
- The wireless network name (SSID) should be a combination of English letters and numbers. (Do not use special characters.)
- Smartphone user interface (UI) may vary depending on the mobile operating system (OS) and the manufacturer.
- If the security protocol of the router is set to **WEP**, you may fail to set up the network. Please change it to other security protocols (**WPA2** is recommended) and register the product again.

Wireless LAN Module Specifications

Model	LCW-003
Frequency Range	2412 to 2462 MHz
Output Power (Max)	< 30 dBm

Installing the LG ThinQ Application

Search for the **LG ThinQ** application from the Google Play Store or Apple App Store on a smartphone. Follow instructions to download and install the application.

FCC Notice

This following notice cover the transmitter module contained in this product.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1) This device may not cause harmful interference and
- 2) This device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC RF Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be colocated or operating in conjunction with any other antenna or transmitter.

This equipment should be installed and operated with a minimum distance of 20 cm (7.8 inches) between the antenna and your body. Users must follow the specific operating instructions for satisfying RF exposure compliance.

Open Source Software Notice Information

To obtain the source code under GPL, LGPL, MPL, and other open source licenses, that is contained in this product, please visit <http://opensource.lge.com>.

In addition to the source code, all referred license terms, warranty disclaimers and copyright notices are available for download.

LG Electronics will also provide open source code to you on CD-ROM for a charge covering the cost of performing such distribution (such as the cost of media, shipping, and handling) upon email request to opensource@lge.com. This offer is valid for a period of three years after our last shipment of this product. This offer is valid to anyone in receipt of this information.

MAINTENANCE

WARNING

Turn off the power by opening the circuit breaker or removing the fuses before you perform any maintenance; otherwise it may cause electrical shock resulting in severe injury or death.

Clean and check the product regularly to maintain optimal performance and to prevent possible break down. If you have difficulty to perform these routine maintenance tasks yourself, contact a qualified person.

Draining and Flushing the Water Heater

Minerals contained in tap water can form lime deposits. Therefore, it is not uncommon that lime deposits accumulate in the water heater's tank. The amount of lime deposits depends on water hardness, the temperature settings, and other variables.

- 1** Turn off the power by opening the circuit breaker or removing the fuses.
- 2** Connect a garden hose to the drain valve and place the end of the hose in a suitable drain.
- 3** Turn off the cold water supply valve.
- 4** Open the drain valve.
(Open a hot water faucet or lift the handle on the T&P relief valve to help the water drain faster.)
- 5** Once the tank is empty, flush the tank by opening the cold water supply valve.
- 6** Allow the water run until no more sediment drains from the tank and water runs clear.
- 7** Close the drain valve and open the hot water faucet. Fill the tank by opening the cold water valve.

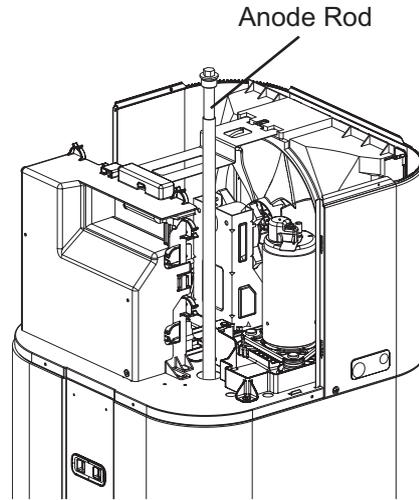
Inspecting and Replacing the Anode Rod

NOTE

- Do not remove anode rod from the tank except for inspection. Operation without anode rod will shorten the life of the tank and will exclude warranty coverage.

The anode rod is a sacrificial metal rod that protects the tank from corrosion and premature failure. The anode rod should be removed from the tank and inspected after the first six months of operation, then annually or more frequently thereafter. Artificially softened water will make anode rod deplete faster than normal. Replace anode rod when more than 6" of core wire is exposed at either end of the rod.

- 4 Using a box wrench, unscrew the anode rod. Lift out the anode rod to inspection.

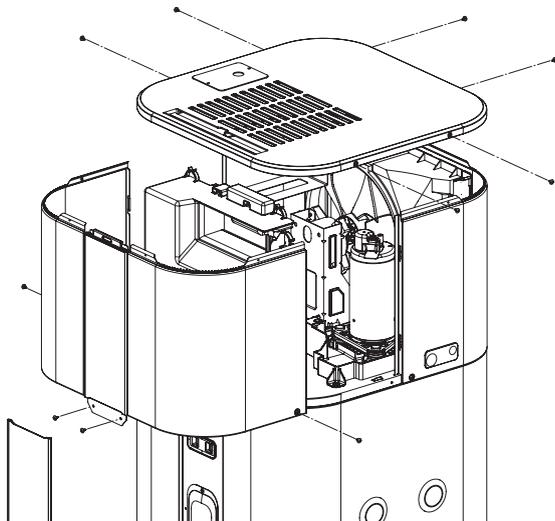


ENGLISH

- 1 Turn off the power by opening the circuit breaker or removing the fuses.
- 2 Partially drain a few quarts of water from the water heater through the drain valve.
- 3 Pull the front decor first, and then remove the top cover. Lift the front panel out.

- 5 To install the anode rod, seal the threads with approved sealant, thread into the port and tighten using a box wrench

- 6 Fill the tank by opening the cold water valve.

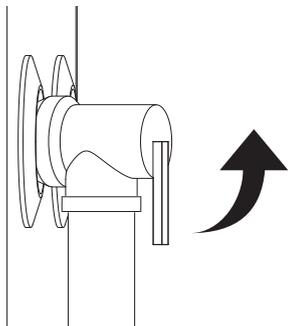


T&P Relief Valve Maintenance

⚠ DANGER

Before manually operating the relief valve, make sure it will discharge in a safe place. If water does not flow freely from the end of the discharge pipe, turn off the power to water heater and call a qualified person.

At least annually, lift and release the lever handle on water heater to ensure the waterways are clear and the valve operates freely.



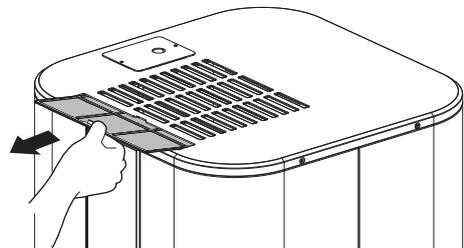
Air Filter Maintenance

Clean the air filters when “Air filter check ()” alarm appears on the display.

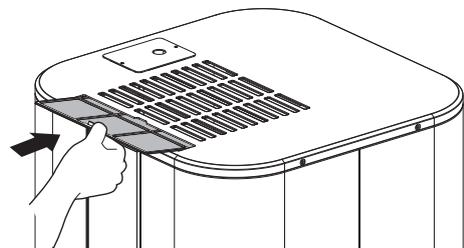
NOTE

- The air filter can be broken when it is bended.
- When the air filter is not assembled correctly, dust and other substance come into the unit.

- 1 Turn off the power by opening the circuit breaker or removing the fuses.
- 2 Hold the knobs of the air filter, pull it and remove it from the top cover.



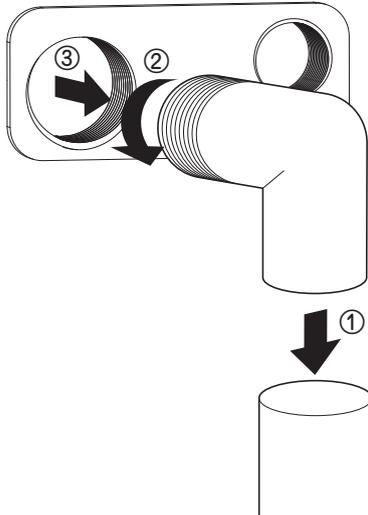
- 3 Clean the filter with a vacuum cleaner or with lukewarm water with neutral detergent.
- 4 Dry the filter in the shade.
- 5 Insert the air filter into the top cover.



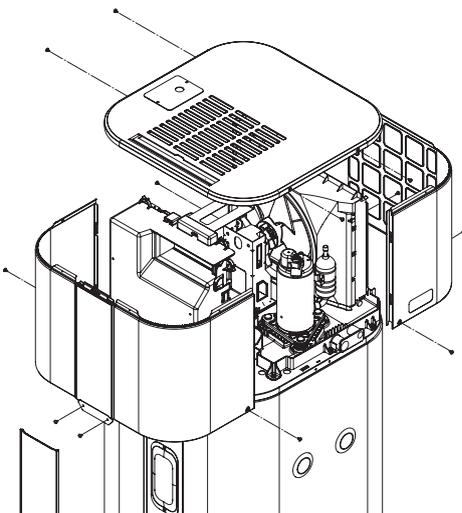
- 6 Check the top cover for correct assembly of the air filter.

Condensate Drain Maintenance

- 1 Remove the condensate drain lines and connections.



- 2 Pull the front decor first, and then remove the top cover. Lift the front panel out, then slightly lift the rear panel and remove it.



- 3 Check the condensate drain pan for any debris, and clean the condensate drain by wiping out with a damp cloth or pouring a cup of bleach.
- 4 Reattach top cover and side panel and connect the condensate drain line.
- 5 Restore power to the water heater.

Shut-down for an Extended Period

If the water heater will not be used for an extended period of time, turn off the power and water supply to water heater and drain water heater to conserve energy and prevent a build-up of dangerous hydrogen gas.

The water heater and piping should be drained if they might be subjected to freezing temperature.

After a long shutdown period, the water heater's operation and controls should be checked by qualified service personnel. Make certain the water heater is completely filled again before placing it in operation.

TROUBLESHOOTING

Before Calling for Service

Please check the following before you contact the service center. If the problem persists, contact your local service center.

CAUTION

For your safety, Do not attempt to repair of electrical wiring, controls, heating elements or other safety devices. Refer repairs to qualified service personnel.

Problem	Possible Causes & Corrective Action
Insufficient or no hot water	Water usage exceeds the capacity of the water heater in current mode <ul style="list-style-type: none"> • Wait for the water heater to recover after an abnormal demand. • Change the mode for higher recovery.
	Water temperature set too low <ul style="list-style-type: none"> • See the “Water Temperature Adjustment” section.(Page 21)
	ECO tripped <ul style="list-style-type: none"> • See “Safety Controls” section.(Page 19)
	No electric supply to the water heater <ul style="list-style-type: none"> • Check the electric supply to water heater. See “Making Electrical Connections” section.(Page 18)
	Water connections to unit are reversed <ul style="list-style-type: none"> • Re-install water connection correctly
	Leak in hot water faucets or plumbing system <ul style="list-style-type: none"> • Make certain all faucets are closed. • Check home for any leaks and repair
	Improper electric wiring <ul style="list-style-type: none"> • See “Making Electrical Connections” section.(Page 18)
	Cold water inlet temperature may be lower in winter <ul style="list-style-type: none"> • This is normal. The colder inlet water takes longer to heat.
	Dirty air filter <ul style="list-style-type: none"> • See “Air Filter Maintenance” section.(Page 28)
Not enough clearance to air exchange for heat pump <ul style="list-style-type: none"> • Make sure unit has enough clearance. See “Select the best Location” section.(Page 12) 	

Problem	Possible Causes & Corrective Action
Insufficient or no hot water	Open fuse or a circuit breaker tripped <ul style="list-style-type: none"> • Replace fuse or reset circuit breaker.
Water is too hot	Water temperature set too high <ul style="list-style-type: none"> • See the “Water Temperature Adjustment” section.(Page 21)
Noise	The heat pump compressor, fan, or EEV valve is running <ul style="list-style-type: none"> • This is normal
	Build up of scale or lime deposits on heating elements may cause rumbling noise <ul style="list-style-type: none"> • Clean or replace the heating elements. This should only be performed by qualified service person. Call our Technical Support Center.
Drips from the outside of the heater	Condensate drain is blocked <ul style="list-style-type: none"> • Clean the drain port and remove the debris.
	Hot/Cold water connections or other parts have loosened <ul style="list-style-type: none"> • Tighten the loose connections. This should only be done by a qualified service person.
Noise and drips from relief valve	Pressure build-up due to thermal expansion in a closed water system. <ul style="list-style-type: none"> • This is an unacceptable condition and must be corrected. Do not plug the T&P relief valve outlet. Contact a plumbing contractor to correct this.
Water odor	Certain water supplies with high sulfate content will react with the anode rod <ul style="list-style-type: none"> • Replacing the anode rod with less-active material rod(ex) zinc anode rod) may help reduce or eliminate the odor.
Water pressure is low	Supply valve is partially closed <ul style="list-style-type: none"> • Open the water heater’s supply valve fully.

Problem	Possible Causes & Corrective Action
Trouble connecting appliance and smartphone to Wi-Fi network.	The password for the Wi-Fi network was entered incorrectly. <ul style="list-style-type: none">• Delete your home Wi-Fi network and begin the registration process again.
	Mobile data for your smartphone is turned on. <ul style="list-style-type: none">• Turn off the Mobile data on your smartphone before registering the appliance.
	The wireless network name (SSID) is set incorrectly. <ul style="list-style-type: none">• The wireless network name (SSID) should be a combination of English letters and numbers. (Do not use special characters.)
	The router frequency is not 2.4 GHz. <ul style="list-style-type: none">• Only a 2.4 GHz router frequency is supported. Set the wireless router to 2.4 GHz and connect the appliance to the wireless router. To check the router frequency, check with your Internet service provider or the router manufacturer.
	The distance between the appliance and the router is too far. <ul style="list-style-type: none">• If the appliance is too far from the router, the signal may be weak and the connection may not be router closer to the appliance or purchase and install a Wi-Fi repeater.

Error Code

Code	Contents	Corrective Action	Operating status
1	Ambient Temp sensor is not working.	Call our Technical Support Center.	Use Elements Only
4	Condensate drain is blocked.	Clean Condensate drain. See "Condensate Drain Maintenance" section.	Use Elements Only
5	PCB Communication error.	Call our Technical Support Center.	Use Elements Only
6	Lower tank Temp sensor is not working.	Call our Technical Support Center.	OFF
9	EEPROM error.	Call our Technical Support Center.	Use Elements Only
12	Mid pipe Temp sensor is not working.		
19	Upper element is not working.	Call our Technical Support Center.	Use Heat Pump Only
20	Lower element is not working.		
21	DC Peak (IPM Fault).	Call our Technical Support Center.	Use Elements Only
22	CT 2 (Max, Current).		
23	DC Link Low/High Volt.		
26	DC Comp Position Error, LOCKIG.		
27	PSC Fault.		

34 TROUBLESHOOTING

Code	Contents	Corrective Action	Operating status
29	Comp Phase is Over-Current.	Call our Technical Support Center.	Use Elements Only
32	Discharge pipe is overheated.		
41	Discharge pipe Temp sensor is not working.		
46	Suction Pipe Temp sensor is not working.		
61	Cond. Pipe Temp is High.		
65	Heat sink Temp sensor is not working.		
67	BLDC motor fan is locked.		
DF	No or not enough water in tank.	Fill water heater with water. Open all hot water faucets until water flows with a full stream.	OFF
EC	ECO is tripped.	Disconnect all power to water heater. See "Safety Controls" section. Call our Technical Support Center.	OFF
H1	Water Temp is too High.	Call our Technical Support Center.	OFF
H2			
L1	Water Temp is too Low.	Call our Technical Support Center.	OFF
L2	Water Temp is too low or upper tank Temp sensor is not working.		

Replacement Parts List

CAUTION

For your safety, Do not attempt to repair electronic controls, electrical wiring, heat pump, heating elements or other safety devices by yourself. Refer repair to authorized service center.

ENGLISH

NOTE

- Check the water heater's rating plate on the unit for the acceptable voltage and wattage.

Replacement parts can be ordered through the distributor or store where the heater was purchased. All parts order should include following information:

1. Model and serial number of the products.
2. Voltage and wattage as marked on rating plate
3. Part description

Item No.	Description	SVC loc
1	Panel Assembly,Front	137211
2	PCB Assembly,Display	2687D
3	Cover,Terminal	135500Z
4	Cover Assembly,Top	135515
5	Filter Assembly,Air Cleaner	159830
6	Cover Assembly,Control	135510
7	PCB Assembly,Power	2687P
8	PCB Assembly,Main	2687M
9	PCB Assembly,Module	2687U
10	Transformer,Reactor	261704
11	Case Assembly,Control	249951
12	Panel,Rear	237205
13	Bracket,Motor	349600
14	Motor Assembly,DC,Outdoor	546710
15	Fan,Propeller	559014
16	Nut,Common	W1NF
17	Shroud Assembly	549990
18	Evaporator Assembly,First	354210
19	Switch Assembly	266010
20	Pan Assembly,Drain	330871
21	Compressor Set,China	554160

Item No.	Description	SVC loc
22	Damper, Compressor	550140
23	Tube Assembly, Reverse	552116
24	Coil, Expansion	661401
25	Tube Assembly, Expansion	55211G
26	Tube Assembly, Evaporator(Out)	352116
27	Tube Assembly, Connector	35211E
28	Tube Assembly, Evaporator(In)	352115
29	Harness, Multi	HNVC13
30	Harness, Multi	HNMP13
31	Thermistor Assembly, NTC	263DZZ
32	Thermistor Assembly, NTC	263RVZ
33	Thermistor Assembly, NTC	263SZZ
34	Bracket	W4810
*	Refrigerant	778600

