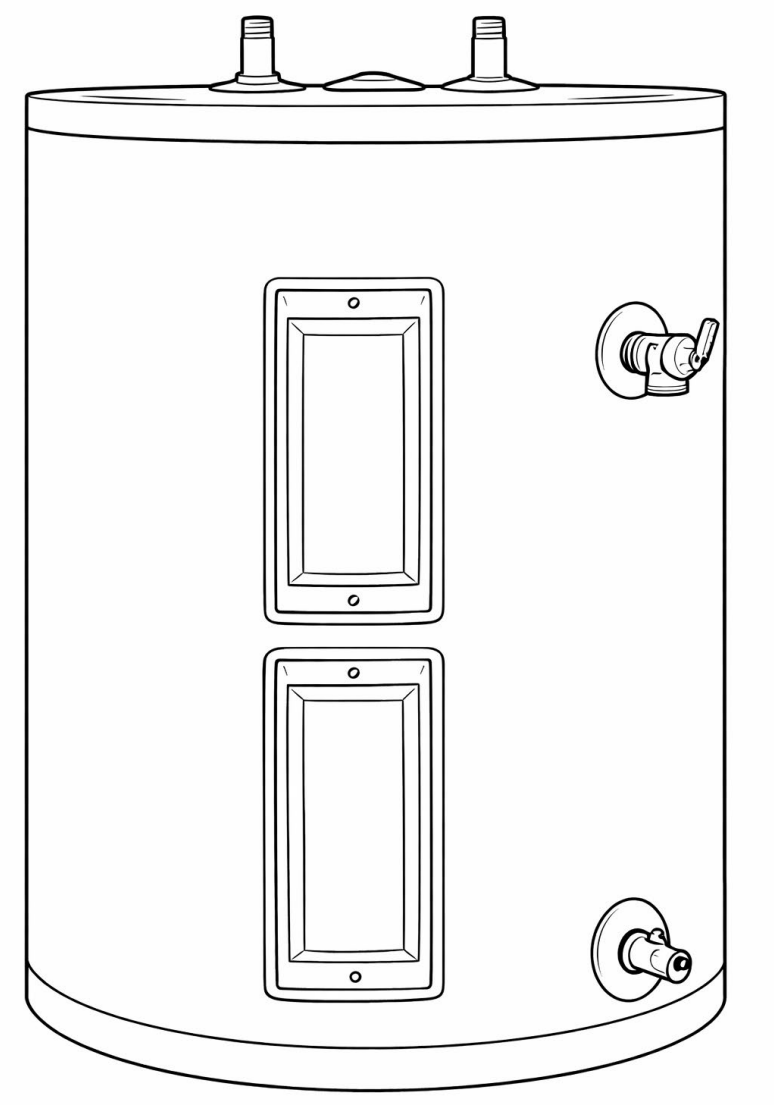
Installation and Owner's Guide

Residential Electric
Water Heater | 206170, 206173 & 206174



Carefully read this manual and all labels on the water heater before installing, operating, or servicing the unit.

ChadwellSupply.com | 888.341.2423 | ESPAÑOL 888.341.7330

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Unit Information:

Maintenance Performed	Date

Purchase Date _____

Model Number_____

Serial Number _____

www.ChadwellSupply.com

For further information about this warranty, contact Customer Service at 888-341-2423 or customerservice@ChadwellSupply.com

Drain and flush the tank, and remove and inspect the anode rod after the first six months of operation and at least once each year thereafter. Operate the Temperature and Pressure (T&P) Relief Valve annually, and inspect the valve every 2–4 years. Refer to the label on the T&P Relief Valve for the recommended maintenance schedule. If no label is present, follow the instructions provided in the T&P Relief Valve Maintenance section of this manual. See the Maintenance section for complete details on proper water heater care and servicing. This product is certified to comply with a maximum weighted average of 0.25% lead content as required in some areas.

Important Safety Information

Read and follow all safety messages and instructions in this manual.



This is the safety alert symbol. It is used to warn you of potential personal injury hazards. Follow all safety instructions that accompany this symbol to help prevent property damage, serious injury, or death.

Do not remove any permanent instructions, warning labels, or the data plate from the exterior of the water heater or from inside the access panels. Keep this manual stored near the water heater for future reference.

Recognize the Indications:

 DANGER	 WARNING	 CAUTION	NOTICE
Hazardous situation that, if not avoided, will result in death or serious injury.	Hazardous situation that, if not avoided, could result in death or serious injury.	Hazardous situation that, if not avoided, could result in minor or moderate injury.	Practices not related to physical injury.

 Carefully read this manual and all labels on the water heater before installing, operating, or servicing the unit. If you have difficulty understanding any instructions, or are unsure that you can perform the work safely and correctly:

Contact your local plumbing supply store to arrange professional installation. Professional installation is available for this product, and the workmanship is guaranteed.

Schedule service with a qualified installer of your choice.

Improper installation, operation, or service may damage the water heater, your home, or other property, and can create serious hazards including fire, scalding, electric shock, or explosion, which may result in severe injury or death.

AHRI Certification® applies to residential electric water heaters with rated storage capacities of 20 to 120 gallons and input ratings of 12 kW or less.

Store this manual in the pocket on the water heater for easy access whenever maintenance, adjustments, or service are needed. Keep your original sales receipt as proof of purchase.

Important Safety Information

To help prevent property damage, serious injury, or death, carefully read and follow the precautions below, all warning labels on the water heater, and the safety instructions provided throughout this manual.

RISKS DURING INSTALLATION & MAINTENANCE



Electric Shock Hazard
Contact with electrical components inside the junction box or behind the access panels can result in severe injury or death from electric shock.

Turn off power at the circuit breaker or remove the fuses before installing, servicing, or performing maintenance.

Use a non-contact circuit tester to verify that power is off before working on or near any electrical components.

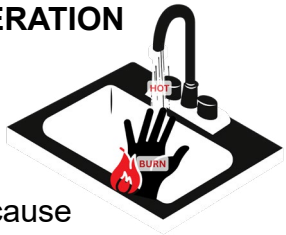
After servicing, reinstall and secure the junction box cover and all access panels.

Lifting Hazard



⚠**WARNING!** The water heater is heavy. Improper lifting can result in property damage or personal injury. Use two or more people to lift or move the water heater. Ensure a secure grip before lifting. Use an appliance dolly or hand truck when moving the unit.

RISKS DURING OPERATION
Scalding Hazard



This water heater is capable of producing water hot enough to cause severe burns instantly, which may result in serious injury or death. Always check water temperature before bathing or showering.

To reduce the risk of scalding, install Thermostatic Mixing Valves (temperature-limiting valves) at each point-of-use. These valves automatically blend hot and cold water to control the temperature delivered at faucets and fixtures. Follow the manufacturer's installation and adjustment instructions.

The thermostat(s) on this water heater are factory set to approximately 120°F to help reduce scald risk. Increasing the temperature setting raises the risk of burns. Even at 120°F, hot water can cause scalding. If a higher temperature is selected, Thermostatic Mixing Valves at each point-of-use are especially important.

Refer to the "Adjusting Temperature" section of this manual for instructions on changing thermostat settings. Conditions That May Cause Higher Water Temperatures

Even if the thermostat is set to a lower temperature, hotter-than-expected water can occur under certain conditions:

WATER TEMPERATURE	TIME TO CAUSE SERIOUS BURNS ON ADULT SKIN
160°F	About 1/2 second
150°F	About 1-1/2 seconds
140°F	Less than 5 seconds
130°F	About 30 seconds
120°F	More than 5 minutes

Important Safety Information

Repeated small hot water draws can cause temperature “stacking” inside the tank. When this happens, water at the top of the tank may be up to 30°F hotter than the thermostat setting. This is a usage-related condition and not a malfunction.

The thermostat may have been adjusted to a higher setting.

A malfunctioning thermostat or heating element may result in excessive temperatures.

If installed in a hot environment, tank water temperature may rise to match surrounding air temperature.

If the incoming water supply is pre-heated (such as from a solar system), tank temperatures may exceed the thermostat setting.

To help prevent excessively hot water from reaching fixtures, install Thermostatic Mixing Valves at every point-of-use.

Extra caution is required if anyone in the household is at increased risk of scalding — including elderly individuals, young children, or persons with disabilities — or if local or state codes require a specific maximum water temperature.

According to the national standard set by the American Society of Sanitary Engineering (ASSE 1070) and most local plumbing codes, the thermostat on the water heater should not be used as the only method for regulating water temperature or preventing scalding.

Properly adjusted thermostatic mixing valves installed at each point of use allow the tank temperature to be set higher while reducing the risk of scalding. Setting the tank temperature higher can increase the available supply of hot water and help ensure proper operating temperatures for appliances such as dishwashers and washing machines.

Maintaining higher tank temperatures (approximately 140°F) can also help eliminate bacteria that cause “smelly water” and may reduce the presence of bacteria responsible for certain waterborne illnesses.

Water Contamination Risk

Do not introduce chemicals into the potable water supply. Do not use piping that has been treated with chromates, boiler sealants, or other chemical compounds that could contaminate drinking water.

Fire Risk



To reduce the risk of fire that could cause property damage, serious injury, or death:

Do not store combustible materials such as paper, clothing, or other flammable items near the water heater.

Ensure the junction box cover and access door covers are properly installed. These covers help prevent debris from entering the heater and reduce the risk of ignition or fire spreading.

Keep the water heater dry. If wiring, thermostats, or surrounding insulation become exposed to water from plumbing leaks or other sources, immediately shut off power to the heater and have it inspected by a qualified technician.

Important Safety Information

Water exposure can damage electrical components and create a fire hazard. If the unit has been exposed to flooding or if the thermostat has been submerged, the entire water heater must be replaced.

Make electrical connections properly according to the installation instructions. Use 10-gauge solid copper wire, a UL-listed or CSA-approved strain relief, and connect the ground wire to the green grounding screw.

Explosion Risk



High temperatures and pressures inside the water heater tank can cause an explosion, resulting in property damage, serious injury, or death.

Your water heater is equipped with a Temperature and Pressure (T&P) Relief Valve designed to reduce the risk of explosion by releasing excess pressure and hot water. Additional temperature and pressure protection devices may be required by local plumbing codes.

A nationally recognized testing laboratory inspects the manufacturing process and certifies that the valve meets the requirements of Relief Valves for Hot Water Supply Systems (ANSI Z21.22). The relief pressure of the T&P valve must not exceed the working pressure rating shown on the water heater's rating plate.

Proper maintenance of the T&P Relief Valve is essential. Follow the maintenance instructions provided by the valve manufacturer (located on the label attached to the valve). If the label is missing, refer to the T&P Relief Valve Maintenance section of this manual.

An explosion can occur if the T&P Relief Valve or its discharge pipe becomes blocked. Never cap or plug the valve or the discharge pipe.

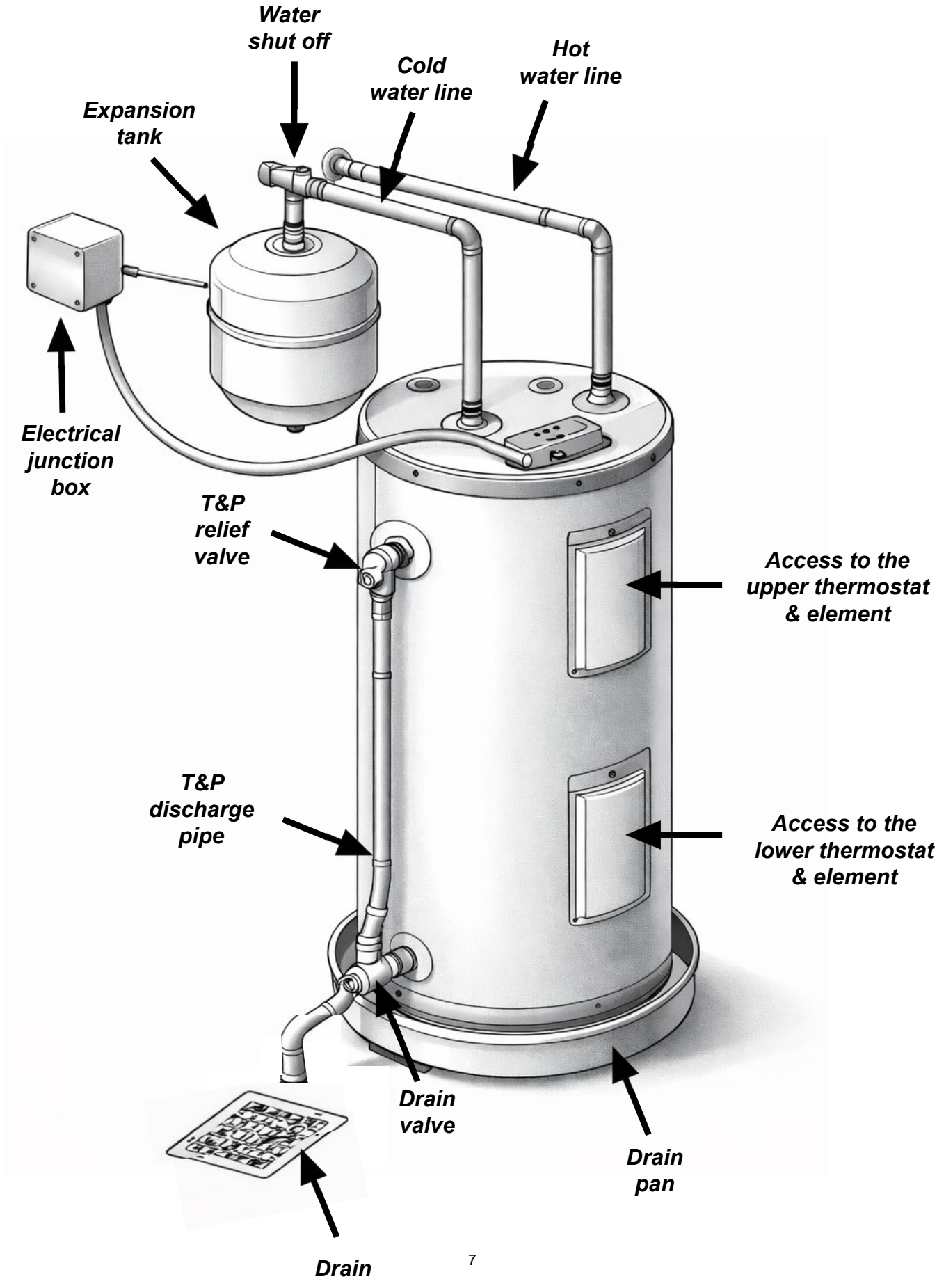
Fire and Explosion Risk After Long Periods of Non-Use

⚠ **CAUTION**: Hydrogen gas can accumulate in a hot water system that has not been used for two weeks or more. Hydrogen gas is extremely flammable.

If the hot water system has been unused for two weeks or longer, open a hot water faucet at the kitchen sink and allow the water to run for several minutes before operating any electrical appliances connected to the hot water system.

Do not smoke or allow open flames or other ignition sources near the faucet while the water is running.

Diagram


Water shut off
Cold water line
Hot water line
Expansion tank
Electrical junction box
T&P relief valve
Access to the upper thermostat & element
T&P discharge pipe
Access to the lower thermostat & element
Drain valve
Drain pan
Drain

Getting Started

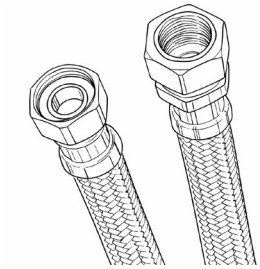


Figure 1: **Flexible connectors** use compression fittings, eliminating the need for soldering.

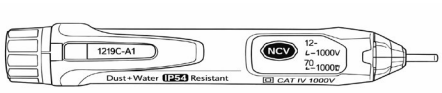


Figure 2: Make sure that the power is off before you work on using a **non-contact circuit tester** a circuit.

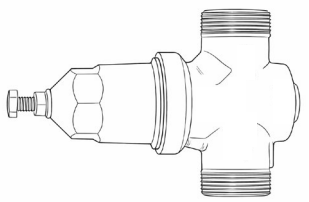


Figure 3: Install a **Pressure Reducing Valve** set to 50 to 60 PSI.

Review All Instructions

Read all instructions completely before starting the installation. If you are unsure whether you can safely perform this work, contact your local hardware store to arrange for professional installation. You may also hire a qualified professional, such as a licensed plumber or electrician. Improper installation can damage the water heater, your home, or other property, and may result in serious injury or death.

Check Local Codes and Regulations

Contact your local and state authorities to determine which codes apply to your installation. If local or state codes are not available, follow the standards established by the National Fire Protection Association and the current editions of the National Electrical Code (NEC) and the International Plumbing Code (IPC). The instructions in this manual comply with national standards; however, the installer is responsible for ensuring compliance with all applicable local codes. In Massachusetts, this water heater must be installed in accordance with Massachusetts 248-CMR 2.00 and 248-CMR 5.00: State Plumbing Code. Other state or local authorities may have additional requirements.

Tools and Supplies

Before beginning installation, make sure you have the following tools and materials and understand how to use them:

Required Tools and Supplies

-Plumbing tools and materials appropriate for the type of piping in your home
-Threaded connectors for the cold and hot water connections (Figure 1)
-For homes with plastic piping, use connectors designed for the specific pipe type, such as CPVC or PEX (cross-linked polyethylene). Do not use PVC pipe. For homes with copper piping, connector kits with compression fittings may be used to avoid soldering (Figure 1). Compression fittings are typically easier to install than soldered connections.
-Thread sealant tape or pipe joint compound approved for potable water systems
-Tools for electrical connections (such as screwdrivers and wire strippers)
-Non-contact circuit tester to verify that power is off (Figure 2)
-Water pressure gauge (see Figure 4 on the next page)

Recommended Accessories

-Suitable drain pan (see Figure 6, page 8)
-Automatic leak detection and shutoff device
-Pressure reducing valve (Figure 3)
-Thermal expansion tank (see Figure 5 on the next page)
-Point-of-use thermostatic mixing valves

Water Heater Installation - Step 1

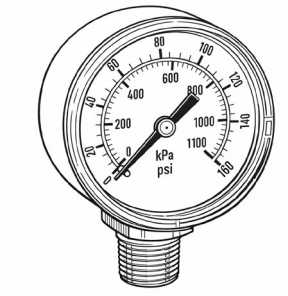


Figure 4: Check home water pressure with water pressure gauge



Figure 5: Protection spikes can get some protection by using a thermal expansion tank

Follow these steps to ensure proper installation of your water heater.

Verify Your Home's Plumbing System
Installing a new water heater is a good opportunity to review your home's plumbing system and confirm that it meets current code requirements. Plumbing codes may have changed since the previous water heater was installed. We recommend installing the accessories listed below, along with any additional components required to meet current codes and ensure optimal performance. Use the checklist below to inspect your system and determine whether any upgrades are needed. For specific requirements, consult your local plumbing authority.

Check Water Pressure
We recommend measuring your home's water pressure using a water pressure gauge (Figure 4). Most plumbing codes allow a maximum incoming water pressure of 80 psi, but a working pressure of 50–60 psi is recommended.

How to check water pressure:
-Purchase a water pressure gauge from a local hardware store.
-Attach the gauge to an outdoor faucet.
-Monitor the pressure throughout the day. Water pressure is often highest at night.
-If water pressure is too high: Locate your home's Pressure Reducing Valve (PRV) on the main cold water supply line and adjust it to maintain pressure between 50 and 60 psi. If your home does not have a PRV,

install one on the main water supply line and set it to the recommended pressure range. Pressure Reducing Valves are commonly available at hardware stores.

Background
Many municipal water systems have increased supply pressures over time to serve more homes. In some cases, residential water pressure can exceed 100 psi. Excessive pressure can damage plumbing fixtures and appliances, including water heaters, and may cause premature leaks.
If you have experienced issues such as leaking water heaters, failed toilet valves, or frequent appliance repairs, your home's water pressure may be too high. When purchasing a PRV, choose a model with a built-in bypass.

Check for Thermal Expansion Protection
Verify that your plumbing system includes a properly sized Thermal Expansion Tank (Figure 5). If your home does not have one installed, we recommend adding one. Most plumbing codes require a properly sized and pressurized thermal expansion tank in homes with closed plumbing systems.

How to install a Thermal Expansion Tank:
Install the expansion tank on the cold water supply line near the water heater. The tank contains an internal bladder and air charge that absorbs pressure increases caused by heated water expanding in the system. The tank must be sized according to the water heater's tank capacity. The internal air pressure must match the home's incoming water pressure. Refer to the installation instructions provided with the thermal expansion tank for detailed installation requirements.

Water Heater Installation Cont.

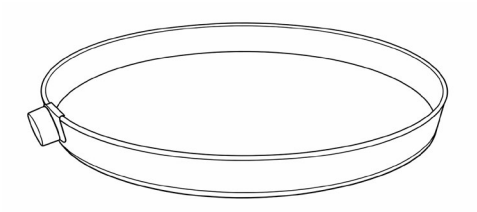


Figure 6: Drain pans and a good drain can be helpful in protecting the floor from any dripping or leaking water.

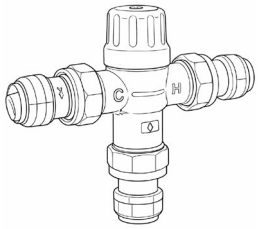


Figure 7: Help prevent scalding by installing thermostatic mixing valves at point of use

Background: Thermal Expansion

Water expands as it heats. The increased volume must have somewhere to go; otherwise, thermal expansion can cause significant increases in water pressure—even if a Pressure Reducing Valve (PRV) is installed on the home's main water supply line.

The Safe Drinking Water Act of 1974 requires backflow preventers and check valves to prevent water from flowing from a home back into the public water system. These devices are often installed in water meters and may not be visible. As a result, most residential plumbing systems are now considered closed systems, meaning a Thermal Expansion Tank is typically required.

A thermal expansion tank is a practical and affordable way to help protect the water heater and other plumbing fixtures—such as washing machines, dishwashers, ice makers, and toilet valves—from pressure-related damage. If your toilet occasionally runs briefly without being used (often at night), it may be caused by pressure increases from thermal expansion.

Water Pipe and Tank Leaks

Leaks from plumbing pipes or the water heater can cause property damage and may create a fire risk.

To reduce this risk:

Install an automatic leak detection and shutoff device. These devices, available at most hardware stores, can detect leaks and automatically shut off the water supply to the water heater.

Install a suitable drain pan beneath the water heater (Figure 6) to collect condensation or minor leaks from piping connections or the tank. Most plumbing codes require installing the water heater in a drain pan that is connected to an adequate drain.

The drain pan should:

-Be at least 2 inches wider than the diameter of the water heater
-Be installed so the water depth does not exceed 1¾ inches

Water Temperature Regulation

Install Thermostatic Mixing Valves (Figure 7) to regulate the temperature of water delivered to each point of use, such as sinks, bathtubs, and showers. Follow the valve manufacturer's installation instructions or consult a qualified professional.

⚠ **WARNING**: Even when the water heater thermostat is set to a relatively low temperature, hot water can still cause scalding injuries. Installing thermostatic mixing valves at each point of use helps reduce the risk of scalding.

Background: Thermostatic Mixing Valves

A thermostatic mixing valve installed at each fixture blends hot water from the water heater with cold water to deliver water at a controlled, consistent temperature.

If you are unsure whether your plumbing system includes properly installed and adjusted thermostatic mixing valves at each point where hot water is used, contact a qualified professional for assistance.

Water Heater Installation - Step 2 & 3

Verify the Installation Location
Before installing the water heater, confirm that the selected location meets the following requirements:
-Proper Placement
The water heater should be:
Installed indoors and located near the center of the plumbing system.
-Placed in a suitable drain pan that is connected to an adequate floor drain or routed outside the building (see page 8, Figure 6).
-Installed in an area that will not be exposed to freezing temperatures.
-Positioned in a location that allows the water heater to be installed vertically.

Service Clearance
Ensure there is sufficient space around the water heater to allow for routine inspection and maintenance.

Floor Support
Verify that the floor can safely support the weight of the water heater when it is completely full of water.

Earthquake Safety
Determine whether the installation area is subject to earthquakes. If so, secure the water heater with approved straps in accordance with local building codes.

NOTICE: In the state of California, water heaters must be braced, anchored, or strapped to prevent movement during an earthquake. For code requirements, contact your local utility provider. Other regions may have similar requirements. Always check with local and state authorities.

Protection from Damage
Choose a location where the water heater will not be exposed to potential damage from vehicles, flooding, or similar hazards.

Leak Protection Considerations
Avoid installing the water heater in locations such as attics, upper floors, or areas where a leak could damage the structure or nearby furnishings. Because water tanks naturally corrode over time, leaks may eventually occur. To reduce the risk of property damage:
-Follow the inspection and maintenance instructions in this manual.
-Install an appropriate drain pan beneath the water heater and connect it to a suitable drain.
-Regularly inspect the drain pan, pipes, and surrounding area, and repair any leaks immediately.

Drain pans are commonly available at hardware stores. Keep in mind that many leaks originate from the plumbing system rather than the water heater itself.

Removing the Old Water Heater
-Review Installation Requirements
Read all installation steps and confirm that you have the necessary skills and tools to complete the work safely. If you are unsure or uncomfortable performing the installation, contact a qualified professional.
-Turn Off Electrical Power
Locate the water heater's circuit breaker and switch it OFF, or remove the corresponding fuses.
-Confirm Power is Off
Remove the electrical junction box access panel on the existing water heater. Use a non-contact circuit tester to verify that power to the wiring is completely off.
WARNING: Working on an energized electrical circuit can result in serious injury or death from electrical shock.
-Disconnect Electrical Wiring
Once power has been confirmed **OFF**, disconnect the electrical wires.
-Cool the Water in the Tank
Open a hot water faucet and allow the water to run until it becomes cool. This may take 10 minutes or longer.
WARNING: Ensure the water is cool before draining the tank to reduce the risk of scalding.
-Prepare for Draining
Attach a garden hose to the drain valve and place the other end in a floor drain, outside the building, or in a suitable container.

Note: Sediment that collects at the bottom of the tank may clog the drain valve and prevent proper draining. Contact qualified person if you are unable to get tank to drain.

Water Heater Installation - Step 4

-Turn OFF the cold water supply valve to the water heater.
-Open the drain valve on the water heater.
-Open a hot water faucet in the home to allow air into the system and help the tank drain more quickly.
-Once the tank is completely empty, disconnect the Temperature and Pressure (T&P) Relief Valve discharge pipe.
The discharge pipe may be reused if it is in good condition; however, do not reuse the old T&P Relief Valve. A new T&P Relief Valve is included with the water heater or packaged with the unit, depending on the model.
-Disconnect the water supply pipes.
Many plumbing connections use threaded unions that can be separated with wrenches. If the pipes must be cut, cut them close to the water heater's inlet and outlet connections, leaving as much pipe length as possible. The pipes can be shortened later if needed during installation of the new water heater.
-Remove the old water heater.

⚠**WARNING**: Use two or more people when removing or installing a water heater. Failure to do so may result in back injury or other physical harm.

Installing the New Water Heater

Review all instructions before beginning installation. If you are unsure about performing any part of the installation, do not return the unit to the store. Instead, seek assistance from one of the following:

-Professional installation services available through many local hardware stores.
-A qualified technician or installer.

-Install a suitable drain pan beneath the water heater and connect it to an appropriate drain.
-Place the water heater in position, ensuring the drain pan is not damaged during installation.
NOTICE: Many building codes require water heaters to be installed in a properly sized drain pan connected to a drain. The drain pan helps prevent property damage caused by condensation, leaks, or piping failures.
The drain pan should be at least two inches wider than the diameter of the water heater and installed so the maximum water depth does not exceed 1-3/4 inches.
-Confirm proper placement of the water heater. Verify the following:

-The T&P Relief Valve will not come into contact with any electrical components.
-There is enough space to install the T&P Relief Valve discharge pipe, and that it can be routed to a separate drain (not into the drain pan).
-Adequate clearance is available around the water heater to allow for future inspection and maintenance.

⚠ **DO NOT CONNECT ELECTRICAL WIRING UNTIL YOU ARE INSTRUCTED TO DO SO.**

NOTICE:
Do not connect electrical power to the water heater until the tank is completely filled with water. Water must run at a full stream from a hot water faucet for at least three minutes to confirm the tank is full. Applying power before the tank is full will cause the upper heating element to burn out.

Install the Temperature and Pressure (T&P) Relief Valve and Discharge Pipe

Most water heaters are shipped with the T&P Relief Valve pre-installed at the factory. In some models, the valve is packaged separately and must be installed in the designated opening according to local plumbing codes.

Water Heater Installation - Step 5 & 6

⚠ **WARNING**:
To reduce the risk of explosion, which could result in serious injury or death, install the T&P Relief Valve and discharge pipe according to the instructions below.

If the water heater does not have a factory-installed T&P Relief Valve, install the new valve supplied with the unit. Do not reuse an existing or old T&P Relief Valve.

Install a T&P Relief Valve discharge pipe that complies with local codes and the following requirements:

The discharge pipe must have a minimum inside diameter of 3/4 inch and be installed with a downward slope to allow proper drainage. It must allow complete drainage of both the valve and the discharge line.

The pipe must be able to withstand temperatures up to 250°F (121°C) without distortion. Use copper or CPVC piping only. Do not use PVC, iron, flexible plastic pipe, or any type of hose.

The discharge pipe must terminate no more than six inches above a floor drain or outside the building. Do not route the discharge pipe into the drain pan. It must be connected to a separate, suitable drain.

In colder climates, terminate the discharge pipe inside the building to an appropriate drain to prevent freezing. Outdoor termination may allow the line to freeze and block the discharge path. Protect the line from freezing conditions.

Install Shutoff and Tempering Valves
Do not install any valve, cap, plug, or restriction between the tank and the T&P Relief Valve or in the discharge pipe. Do not install a reducer in the discharge line.

If a shutoff valve is not already installed, add a manual shutoff valve to the cold water supply line feeding the water heater. Install the valve close to the water heater so it is easy to access. Use only valves approved for potable water. Full-flow ball valves or gate valves are recommended, as other valve types may restrict water flow.

Install a Thermostatic Mixing Valve at each point of use, such as sinks, bathtubs, and showers. Follow the valve manufacturer's instructions or consult a qualified professional for proper installation.

⚠ **WARNING**: Even when the water heater thermostat is set to a relatively low temperature, hot water can still cause scalding. Installing Thermostatic Mixing Valves at each point of use helps reduce the risk of burn injuries (see page 4).

If the water heater is connected to a solar water heating system or any other preheating system, install a Thermostatic Mixing Valve or other temperature-limiting device in the inlet water supply line. This device should limit the incoming water temperature to 120°F. Solar heating systems can produce water temperatures exceeding 170°F, which may cause the water heater to malfunction.

⚠ **WARNING**: Water heated by solar systems can reach extremely high temperatures and may cause instant and severe burns, potentially resulting in serious injury or death (see page 4).

Water Heater Installation - Step 7

Connect the Water Supply
-Identify the type of water piping used in your home. Most homes have copper piping, while others may use CPVC or cross-linked polyethylene (PEX). Use fittings that are compatible with the pipe material in your home. Do not use iron or PVC piping, as these materials are not suitable for potable water systems.
-Connect the cold water supply to the fitting marked “C” (COLD) using a 3/4 inch National Pipe Thread (NPT) connection.
To make future service or replacement easier, connect the water lines using a union fitting. A dielectric union (available at most hardware stores) is recommended. Dielectric unions help reduce corrosion caused by small electrical currents commonly found in copper plumbing and can help extend the life of the water heater.

If You Have Copper Pipes
If your home uses copper plumbing, the connections can be made by soldering the pipes or by using compression fittings, which do not require soldering. Compression fittings are generally easier to install. Check with local plumbing officials to confirm which materials and methods are approved in your area. Do not use lead-based solder.

NOTICE: Do not solder pipes while they are connected directly to the water heater. The inlet and outlet fittings contain non-metallic components that could be damaged by heat.

The recommended method for connecting copper pipes is as follows:
-Solder a short section of pipe (approximately one foot) to a threaded adapter using 95/5 tin-antimony solder or an equivalent.
-Attach the threaded adapter to the water heater connections using thread seal tape or pipe joint compound.
-Connect the home’s water piping by soldering the remaining joints while keeping the water heater connections cool with wet rags.

NOTICE: Many water heater models include energy-saving heat traps in the inlet and outlet connections to prevent unwanted hot water circulation within the plumbing system. Do not remove these heat traps.

-Connect the hot water supply line to the fitting marked “H” (HOT) using a 3/4 inch NPT connection, following the same installation guidelines used for the cold water supply.
-Install pipe insulation or heat tape on the water lines, particularly if the installation area may be exposed to freezing temperatures. Insulating the hot water lines can also help improve energy efficiency.
-Verify that the hot and cold water lines are connected to the correct fittings on the water heater.
-If necessary, install or adjust the home’s Pressure Reducing Valve (PRV) to maintain water pressure between 50–60 psi, and install a Thermal Expansion Tank if required.

Water Heater Installation - Step 8 & 9

Verify Connections and Fully Fill the Tank
To remove air from the tank and ensure it fills completely with water, follow these steps:
-Remove the aerator from the nearest hot water faucet. This allows any debris in the tank or plumbing system to be flushed out.
-Turn the cold water supply back on.
-Open a hot water faucet and let the water run until it flows in a steady, full stream.
-Allow the water to run at full flow for three minutes.
-Close the hot water faucet and reinstall the aerator.
-Inspect the inlet and outlet connections, as well as all water pipes, for leaks. Dry the pipes so any drips are easy to spot. Repair any leaks if found. Most leaks occur at the connections rather than the tank itself.

NOTICE: The tank must be completely filled with water and free of air before electrical power is connected to prevent “dry firing.” Dry firing can cause the upper heating element to burn out and is a common installation mistake.

After completing the water connections—but before connecting electrical power—open a hot water faucet and allow the water to run until all air is removed from the system. Let the hot water run at full flow for at least three minutes before making any electrical connections.

Damage to the upper heating element caused by dry firing is considered an installation error and is not covered under warranty.

If dry firing occurs, replace the upper heating element by following the instructions on page 26.

Make Electrical Connections

⚠ **WARNING**: Working on an energized circuit can cause serious injury or death due to electrical shock.

NOTICE: Do not turn on electrical power unless the tank is completely filled with water and all air has been removed. If power is applied before the tank is full, the upper heating element may burn out (dry firing).
-Make sure the electrical power to the water heater is OFF at the circuit breaker panel (or remove the circuit fuses).
-Use a non-contact voltage tester to confirm that the power is off.
-Check the water heater’s data plate to ensure the home’s voltage, wire size (ampacity), and circuit breaker rating and type match the requirements for this water heater. Refer to the wiring diagram on the unit for proper connections. Verify that wire sizes, types, and connections comply with all applicable local codes. If local codes are not available, follow NFPA-70 and the current edition of the National Electrical Code (NEC).
-Remove the electrical junction box cover located on top of the water heater.
-Install the wiring in an approved conduit if required by local codes. Use a UL-listed or CSA-approved strain relief to secure the electrical wiring to the water heater.
-Connect the ground wire to the green grounding screw. Connect the home’s two power wires to the water heater’s four power wires (black to black and red to red). Use approved wire nuts or other suitable connectors to complete the connections.

Replace the junction box cover and secure it with the provided screws.

⚠ **WARNING**: Ensure the cover is properly secured to reduce the risk of fire or electrical shock.

Water Heater Installation - Step 10 & 11

Adjusting the Temperature

After completing the installation, you may adjust the water heater's temperature if needed.

-**Set the Thermostat**
The thermostat on this water heater is factory set to approximately 120°F to help reduce the risk of scalding. You may choose to set a higher temperature to support appliances such as dishwashers or washing machines, increase available hot water capacity, or reduce bacterial growth. Higher temperatures, such as 140°F, can help eliminate bacteria that cause "smelly water" and may reduce bacteria associated with waterborne illnesses.

⚠ **WARNING**: Increasing the temperature raises the risk of scalding. Even at 120°F, hot water can cause burns. If you increase the temperature setting, install thermostatic mixing valves at each point of use to help reduce the risk of scalding. To Adjust the Thermostat ensure the electrical power is OFF at the circuit breaker panel (or remove the circuit fuses).

⚠ **WARNING**: Working near an energized circuit can result in severe injury or death from electrical shock. Always verify that the power is off using a circuit tester. Remove the upper access panel and fold back the insulation.

Turn the temperature dial clockwise (>>) to increase the temperature or counterclockwise (<<) to decrease it. Adjust the dial to the desired setting.

Note: This water heater has two thermostats, located behind the access panels.

Replace the insulation and reinstall the access panel.

⚠ **WARNING**: Ensure the panel is securely fastened to reduce the risk of fire or electrical shock.

-**Restore Power**
Turn the electrical power back ON at the circuit breaker.

-**Allow Time for Heating**
Wait for the water to heat up. A full tank of cold water may take several hours to reach the set temperature. If hot water is not available after two hours, refer to the Troubleshooting section (page 21).

⚠ **WARNING**: If the temperature has been increased and thermostatic mixing valves are not properly set (or are not installed), there is a risk of scalding when checking the water temperature.

-**Check Water Temperature**
Test the water temperature at several locations in your home, such as a bathtub faucet, shower, or sink, and adjust the thermostatic mixing valves as needed. If you are unsure how to adjust these valves, or if you are unsure whether they are installed, contact a qualified professional.

Operation
The water heater is now ready for normal use. To ensure safe and efficient performance and to extend the life of the unit, perform regular maintenance according to the schedule provided on page 25.

Vacation
To conserve energy during extended periods away from home, lower the thermostat temperature setting. Follow the instructions in Step 10 to reduce the temperature before leaving and to properly raise it again when you return.

CAUTION: Hydrogen gas can accumulate in a hot water system that has not been used for an extended period (two weeks or more). Hydrogen gas is highly flammable. If the hot water system has not been used for two weeks or longer, open a hot water faucet at the kitchen sink and allow it to run for several minutes before using any appliances connected to the hot water system. Do not smoke or allow open flames or other ignition sources near the faucet while it is open.

Troubleshooting

⚠**WARNING**: Working near an energized electrical circuit can cause serious injury or death due to electrical shock.

⚠**WARNING**: After completing any work, ensure that all covers are properly secured to reduce the risk of fire or electrical shock.

No Hot Water

The most common causes of an electric water heater producing no hot water include:
-No electrical power—often an issue with new installations
-Burned-out upper heating element due to dry firing—a common installation error
-Tripped Energy Cut-Off (ECO) switch (red reset button on the upper thermostat)
-Reversed inlet and outlet water connections (usually in new installations)
-Faulty upper thermostat or damaged wiring
-A leak on the hot water side of the plumbing system that exceeds the heater's capacity, making it appear that little or no hot water is being produced

Follow these steps to diagnose and correct common electrical issues:

Check the Electrical Power Supply
A lack of hot water is often caused by an issue with the home's electrical wiring or circuit breakers. You will need a non-contact voltage tester.
Follow these steps:
-Locate the water heater's circuit breaker and turn it off (or remove the circuit fuses).
-Find the electrical junction box on top of the water heater and remove the cover.
-Identify the two power wires, which are usually black/black or black/red. The green or copper wire is the ground wire.
Turn the circuit breaker back on (or reinstall the fuses) and use a non-contact circuit tester to check for power on both incoming power wires. Turn the power off again and reinstall the junction box cover.
If the water heater is not receiving power, contact a qualified technician to inspect the home's wiring or circuit breakers.

Check the Upper Heating Element
If the water heater has electrical power, the upper heating element may have failed. A burned-out upper element will result in no hot water.
To test the upper element, you will need a multimeter capable of measuring resistance.
-Turn the power OFF at the circuit breaker or remove the fuses.
-Remove the upper access panel.
-Pull back the insulation to access the upper thermostat and heating element.

Use a non-contact circuit tester to confirm that power is off at the top two screws of the upper thermostat (screw terminals 1 and 3).

With the power off:
-Disconnect the two power wires from the upper heating element.
-Use a multimeter to measure the resistance between the two screw terminals on the heating element.

A properly functioning element should measure between 5 and 25 ohms.
-Outside this range: Replace the heating element (see the Routine Maintenance section on page 26). On a new water heater, a failed upper element is usually caused by dry firing, which occurs when power is applied before the tank is completely filled with water.
-Within this range: Reconnect the wires, ensuring they are in good condition and that all connections are clean and secure. Then continue with further diagnostic checks.

Check/Reset the Energy Cut-Off (ECO)
The Energy Cut-Off (ECO) automatically shuts off power to the heating elements if the water temperature in the tank becomes too high. When the ECO is tripped, the water heater will not produce hot water.
In most cases, the ECO can be reset;
⚠ however, the cause of the overheating should be identified and corrected by a qualified technician before restoring power. Do not turn the power back on until the issue has been resolved.

Troubleshooting Cont.

To Check or Reset the ECO
Turn off power to the water heater at the circuit breaker.

⚠ **WARNING**: Working near an energized circuit can result in severe injury or death from electrical shock. Use a non-contact circuit tester to confirm that power is off at the electrical junction box.

Press the red ECO reset button (see referenced figure). If you hear a click, the ECO has reset. This usually indicates the tank overheated due to a faulty heating element or thermostat. A qualified technician should inspect the upper and lower heating elements and thermostats and replace any defective components. If you do not hear a click, the ECO was not tripped. In this case, the upper thermostat should be inspected by a qualified technician. Replace the insulation and reinstall the upper access panel.

⚠ **WARNING**: Ensure all covers are securely installed to reduce the risk of fire or electrical shock.

Insufficient Hot Water or Slow Recovery

⚠ **WARNING**: If the thermostat is set above 120°F, install Thermostatic Mixing Valves at each point of use to reduce the risk of scalding (see page 4).

If the hot water is not hot enough, several factors may be responsible:
-Faulty Thermostatic Mixing Valve in a faucet or shower control
-One or both thermostats set too low
-Water heater capacity too small for household demand
-Reversed plumbing connections or a damaged dip tube (often noticed after installation)
-Plumbing leaks in the hot water system
-Faulty lower heating element or lower thermostat
-Low supply voltage

Thermostatic Mixing Valves
If the water is not hot enough, first verify that the faucet or shower being tested does not have a faulty Thermostatic Mixing Valve. Many modern shower controls include built-in mixing valves. If these fail, they may limit the amount of hot water reaching the fixture, even if the tank contains sufficient hot water. Check the temperature at multiple faucets to determine whether the problem is with the water heater or a specific fixture.

Thermostat Settings
If water temperature is low throughout the home, the thermostat setting may be too low. Adjust the thermostat according to the instructions provided in Step 10 of the Installation section.

Water Heater Capacity
If hot water runs out quickly, the water heater may be undersized for your household needs. If the unit is older, replacing it with a larger model may be necessary.
If the heater is still in good condition, you may increase usable hot water by installing Thermostatic Mixing Valves at each point of use and increasing the thermostat setting. Refer to Step 10 on page 15.
You can also reduce hot water demand by:
-Washing clothes in cold water
-Installing low-flow shower heads
-Repairing leaking faucets
-Practicing other water conservation measures

Reversed Connections or Damaged Dip Tube
Verify that the home's hot water line is connected to the hot water outlet on the heater and the cold supply to the inlet. Reversed connections are commonly found shortly after a new installation.

If copper pipes were soldered while connected to the water heater, the internal dip tube may have melted. The dip tube directs incoming cold water to the bottom of the tank.

If damaged, the dip tube can be replaced by:
-Disconnecting the cold water inlet connection
-Removing the old dip tube
-Installing a new replacement dip tube

Troubleshooting Cont.

Plumbing Leaks
Even a small leak on the hot water side of the plumbing system can create the impression that the water heater is producing little or no hot water. Inspect the system carefully and repair any leaks found.

Lower Heating Element
If the lower heating element (or its thermostat) fails, the heater may still produce some hot water but will recover slowly. The element or thermostat should be inspected and replaced if necessary.

Water Temperature Too High
If the water temperature is excessively hot, take one of the following actions:
-Install or properly adjust Thermostatic Mixing Valves at each point of use according to the manufacturer's instructions, or
-Lower the thermostat setting on the water heater (refer to Step 10 in the Installation section). A malfunctioning thermostat or a shorted heating element can also cause extremely high water temperatures. If the Temperature and Pressure Relief (T&P) Valve releases large amounts of very hot water, the cause may be a shorted heating element, a faulty thermostat, or a thermostat that is not properly seated against the tank.
Excessively high water temperatures may also cause the Energy Cut-Off (ECO) to trip (see page 27). Turn off electrical power to the heater until the issue has been identified and corrected.

Low Water Pressure
Check both the hot and cold water at a sink to determine whether the low pressure occurs on both sides.
-If both hot and cold water pressure are low, contact your local water utility.
-If only the hot water pressure is low, the problem may be due to one of the following:
Melted Heat Traps or Dip Tube
Soldering copper pipes while they are still connected to the water heater can melt the heat traps in the hot and cold connections or the dip tube on the cold water inlet. A damaged heat trap or dip tube can restrict water flow. Replace the affected component if necessary.

Partially Closed Supply Valve
Make sure the water heater's cold water supply valve is fully open.

Dripping from the T&P Relief Valve Discharge Pipe
A small amount of water dripping from the Temperature and Pressure (T&P) Relief Valve usually indicates that the home's water pressure is too high or that a properly sized Thermal Expansion Tank is required. Refer to first step in the Installation section for additional information. A large amount of hot water flowing from the discharge pipe may indicate that the tank is overheating.

⚠ **WARNING**: Never cap or plug the T&P relief valve or discharge pipe, and do not operate the water heater without a functioning T&P relief valve. Doing so could result in an explosion.

High Water Pressure
Excessive water pressure can cause the T&P relief valve to drip. Install a Pressure Reducing Valve (PRV) on the main cold water supply line and adjust it to 50–60 psi.

Thermal Expansion Tank
Install a Thermal Expansion Tank if one is not already present. If a tank is installed but the T&P valve continues to drip, the tank may be improperly pressurized or the internal bladder may be defective. Refer to the manufacturer's instructions for proper setup and maintenance.

Debris in the Valve
In rare cases, debris may become lodged inside the T&P valve and prevent it from sealing properly. You may be able to clear debris by manually operating the valve to allow a small amount of water to flush through it. Refer to the T&P Relief Valve Maintenance section for instructions.

Troubleshooting Cont.

⚠ **WARNING**: When manually operating the T&P relief valve, ensure that no one is standing near the discharge outlet. The water released may be extremely hot and could cause severe burns. Also make sure the discharge will not cause property damage.
If the water pressure is properly set, a thermal expansion tank is installed and functioning correctly, and the valve has been cleared of debris but dripping continues, the T&P valve may be defective and should be replaced by a qualified technician.

Water Odor
Naturally occurring bacteria in tap water can sometimes multiply inside a water heater and produce a “rotten egg” odor.
Although a chlorination system is the most reliable way to eliminate odor-causing bacteria, replacing the standard anode rod with a special zinc anode rod may help reduce or eliminate the smell. Contact a qualified technician for assistance.

NOTE: An anode rod must always be installed in the water heater to protect the tank from corrosion. Operating the heater without an anode rod will void the warranty.
In cases where the odor is severe, raising the water temperature to 140°F may help reduce bacterial growth inside the tank.

⚠ **WARNING**: Higher water temperatures increase the risk of scalding. If the thermostat is set above 120°F, install Thermostatic Mixing Valves at each point of use to help prevent scald injuries (see page 4).

Maintenance

Routine Maintenance
Regular maintenance helps extend the life of your water heater and ensures it operates efficiently. If you are unable to perform these maintenance tasks yourself, contact a qualified service technician.

Water Heater Maintenance
After the first six months of operation, drain and flush the water heater and inspect the anode rod. Depending on the hardness of your water, this process should be repeated at least once a year, or more frequently if necessary. Occasionally, components such as the heating element or thermostat may also need replacement. The following sections explain these maintenance procedures.

Draining and Flushing the Water Heater
Tap water naturally contains minerals that can accumulate as lime scale on heating elements or settle as sediment at the bottom of the tank. The amount of buildup depends on the hardness of the water in your area, temperature settings, and overall water quality. We recommend draining and flushing the tank after the first six months of use to evaluate sediment accumulation. Removing sediment helps extend the life of the tank, heating elements, and drain valve. In areas with very hard water, remove and inspect the heating elements each time the tank is drained. If heavy lime scale is present, the elements may need to be replaced more frequently.

Sediment can sometimes form large deposits that block the drain opening and prevent the tank from emptying. A qualified technician may need to use a de-liming solution suitable for potable water systems to remove this buildup. In many cases, replacing heavily scaled heating elements is more practical and cost-effective than attempting to clean them.

To Drain and Flush the Tank
-Locate the circuit breaker for the water heater and turn it OFF (or remove the appropriate fuse).
-Open a hot water faucet and allow the water to run until it becomes cool.

⚠**WARNING**: Ensure the water is cool before draining the tank to reduce the risk of scalding.

-Attach a garden hose to the drain valve and place the other end in a suitable drain, outside location, or bucket.
-Turn OFF the cold water supply valve.
-Open the drain valve on the water heater.
-Open a nearby hot water faucet to help the tank drain more quickly.

Maintenance

NOTICE: Do not restore electrical power until the tank is completely full of water.

Inspecting the Anode Rod
Locate and remove the anode rod (see the Repair Parts Illustration for its location). Replace it if it shows significant wear.

Procedure:
-Turn power OFF to the water heater. Run hot water until it is cool.
-Turn OFF the cold water supply valve.
-Open a hot water faucet to relieve pressure in the tank.
-Remove the black plastic cover labeled “Anode Rod.”
-Use a keyhole saw or similar tool to remove the foam insulation covering the anode rod.
-Once exposed, remove the anode rod using an 11/16 in. socket wrench with an extension.
-Inspect the rod and replace it if it is significantly deteriorated.
-Apply thread sealant tape or pipe joint compound and reinstall the rod securely.
-Replacing the removed foam insulation is not required.
-Turn the cold water supply valve ON.
-When water flows steadily from the open hot water faucet, close the faucet.
-Check for leaks and repair if necessary, then restore power.

Anode Rod Information
The anode rod is a sacrificial metal rod designed to reduce corrosion inside the tank and help prevent premature tank failure or leaks. Because it gradually deteriorates over time, it should be inspected during routine maintenance, starting with the first six-month service interval when draining and flushing tank.

Anode Rod Inspection and Replacement
Replace the anode rod if it is significantly worn or depleted. After the initial inspection, check the anode rod at least once each year, or more frequently if needed. Homes that use a water softener may experience faster anode rod deterioration, so inspections may need to be performed more often.

Replacement anode rods are available at most hardware stores, or the work can be performed by a qualified technician. Anode rods are considered a consumable component and are not covered under warranty.

-Flushing Remaining Sediment
If sediment was present when the tank was drained, flush the tank by opening the cold water supply valve and allowing water to run until the discharge is clear and free of sediment. Close the drain valve once flushing is complete.

NOTICE: Do not restore electrical power until the tank is completely filled with water. For detailed instructions on filling the tank, refer to Step 8 in the Installation section.

-Refilling the Tank
Open the cold water supply valve to refill the tank. Ensure the drain valve is closed and a hot water faucet is open. Allow the hot water to run for at least three minutes to remove trapped air and confirm the tank is completely full.

Failure to remove air from the tank may cause the upper heating element to burn out. Once the tank is confirmed to be full, close the hot water faucet.

-Restore Power
Turn the power back on to the water heater. The tank may take up to two hours to reach normal operating temperature.

Replacing the Heating Element
⚠**WARNING**: Working on an energized electrical circuit can result in severe injury or death from electrical shock. Always turn power OFF and verify that power is disconnected using a non-contact circuit tester before performing any service. After maintenance is complete, ensure all covers are properly secured to reduce the risk of fire or electric shock.

Maintenance

If you are not comfortable replacing the heating element or thermostat yourself, have the work performed by a qualified technician.

Tools and Supplies Needed
Verify power is OFF and check the wires using a non-contact circuit tester before beginning work. Refer to the water heater's data plate for the correct voltage and wattage rating when selecting a replacement heating element. Replacement elements are available at most hardware stores.

-A 1½-inch socket may work for element removal, but many sockets have beveled edges and may slip. Specialized element wrenches are inexpensive and commonly available at hardware stores.
-Garden hose (for draining the tank)
-Hand dish washing soap (to lubricate the gasket)
-Clean cloth (to clean the threaded opening)
-Flat-blade screwdriver
-Phillips screwdriver

Steps for Replacing the Heating Element
-Turn OFF power at the circuit breaker or remove the fuse.
-Open the electrical junction box on top of the water heater. Use a non-contact circuit tester to confirm that the power wires are not energized.
-Open a hot water faucet and allow the water to run until it becomes cool.

⚠**WARNING**: Make sure the water is cool before draining the tank to reduce the risk of scalding.

Attach a garden hose to the drain valve and route the other end to a floor drain, outside area, or suitable container such as a bucket. Turn OFF the cold water supply valve to the water heater. Open the drain valve to begin draining the tank. Opening a nearby hot water faucet will help the tank drain more quickly.

-Remove the upper or lower access panel on the water heater. Fold back the insulation and remove the plastic cover over the heating element and thermostat.

-After the tank has drained and power is confirmed OFF, disconnect the power wires from the heating element you plan to replace.
-Remove the faulty heating element using an element wrench.
-Verify that the replacement element matches the correct voltage and wattage listed on the water heater's data plate.
-Clean the threaded opening in the tank with a clean cloth. Install the new heating element with the rubber gasket in place.

Note: Apply a small amount of hand dish washing liquid to the gasket to lubricate it and help prevent damage while tightening. Secure the element using an element wrench.

NOTICE: Do not restore power until the tank is completely filled with water. For full instructions on filling the tank, refer to Step 8 in the Installation section.

-Refill the tank by opening the cold water supply valve. Make sure the drain valve is closed and a hot water faucet is open. Allow the hot water to run for at least three minutes to remove air from the system and confirm the tank is completely full. Failure to remove trapped air can cause the upper heating element to burn out. Once the tank is full, close the hot water faucet.
-Inspect the newly installed element for leaks. If a leak is detected, tighten the element until the leak stops. If the leak continues, drain the tank and remove the element. Check the gasket for damage and replace it if necessary before reinstalling the element.
-After confirming there are no leaks, reconnect the power wires. Reinstall the thermostat cover, insulation, and access panel. Ensure all wire connections are secure. Replace the electrical junction box cover.
-Restore power to the water heater. The tank may take up to two hours to reach the desired temperature.

Maintenance

Replacing the Thermostat

⚠ **WARNING**: Working on an energized electrical circuit can result in severe injury or death from electrical shock. Always turn the power OFF and verify that power is disconnected using a non-contact circuit tester before performing service. After maintenance is complete, ensure all covers are properly secured to reduce the risk of fire or electric shock.

Tools and Supplies Needed
-Non-contact circuit tester: Always turn power OFF and verify the circuit is not energized before working on the water heater.
-Replacement thermostat: Available at most hardware stores. Bring the old thermostat with you to ensure the replacement is correct.
-Business card: Used to check the gap between the thermostat and the tank surface.
-Tape and permanent marker: For labeling wires before removal.
-Flat-blade screwdriver
-Phillips screwdriver

-First turn OFF power to the water heater at the circuit breaker or remove the fuse.

NOTICE: Draining the tank is not required when replacing a thermostat.
-Open the electrical junction box on top of the water heater. Use a non-contact circuit tester to confirm that the power wires are not energized.
-Remove the upper or lower access panel on the water heater. Carefully fold back the insulation and remove the plastic cover protecting the element and thermostat.
-Verify that the replacement thermostat matches the original thermostat.
-Label the wires with tape so they can be reconnected correctly.
-Disconnect the wires from the faulty thermostat and remove the thermostat from the metal mounting clip.
-Install the new thermostat into the metal mounting clip.
-Ensure the thermostat fits snugly against the tank surface. You should not be able to slide a business card between the thermostat and the tank. If there is a gap, gently adjust the mounting clip until the thermostat fits firmly against the tank.
-Reconnect the wires according to the wiring diagram on the water heater label. Make sure all connections are secure.
-Reinstall the plastic thermostat/element cover, insulation, and access panel.
-Replace the electrical junction box cover.
-Restore power to the water heater. The tank may take up to two hours to heat to the desired temperature.

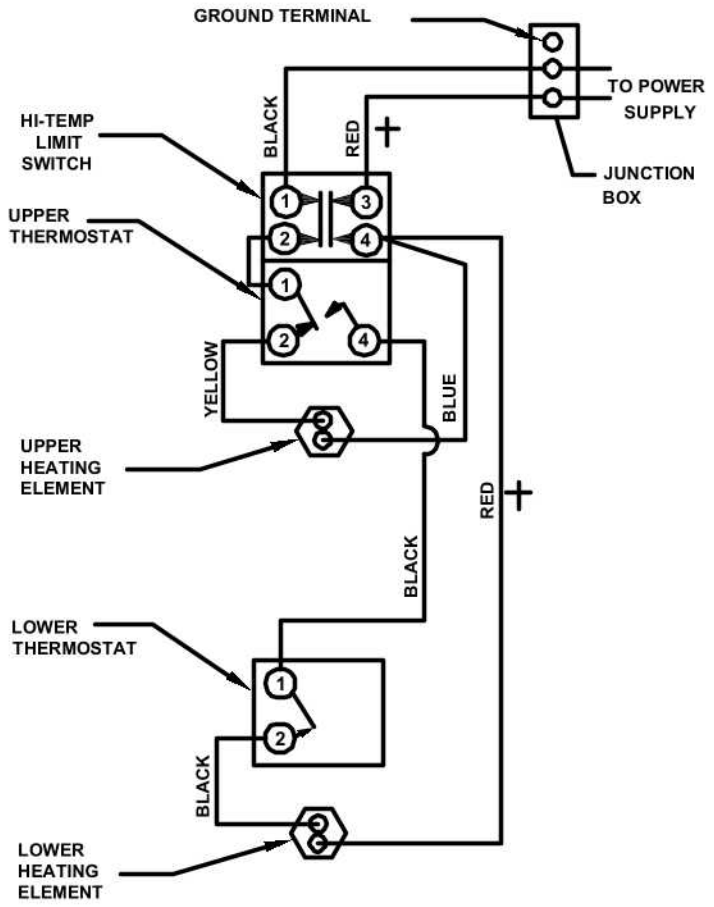
T&P Relief Valve Maintenance
Follow the operating and annual maintenance instructions provided by the manufacturer of the Temperature and Pressure (T&P) Relief Valve (see the yellow label attached to the valve). If no label is present, follow the guidelines below. Minerals in the water can form deposits that may cause the valve to stick or block internal passages, which can prevent the valve from operating properly.

Maintenance Guidelines:
At least once a year, manually operate the T&P Relief Valve to ensure the waterways are clear and the valve mechanism moves freely. Before operating the valve, confirm that the discharge pipe directs water to a safe drainage location. If water does not flow freely from the discharge pipe, turn OFF power to the water heater and contact a qualified technician to determine the cause.

⚠ **WARNING**: Hot water will be released when the valve is operated. Ensure the discharge location is safe before testing the valve.

Every five years, have a qualified technician inspect the T&P Relief Valve and the discharge pipe. Issues such as corrosion, mineral buildup, or other damage can only be properly evaluated when the valve is removed and inspected. A dripping T&P Relief Valve is often caused by excessive water pressure in the home or the absence of a thermal expansion tank. If the valve is dripping, refer to the troubleshooting section for additional guidance.

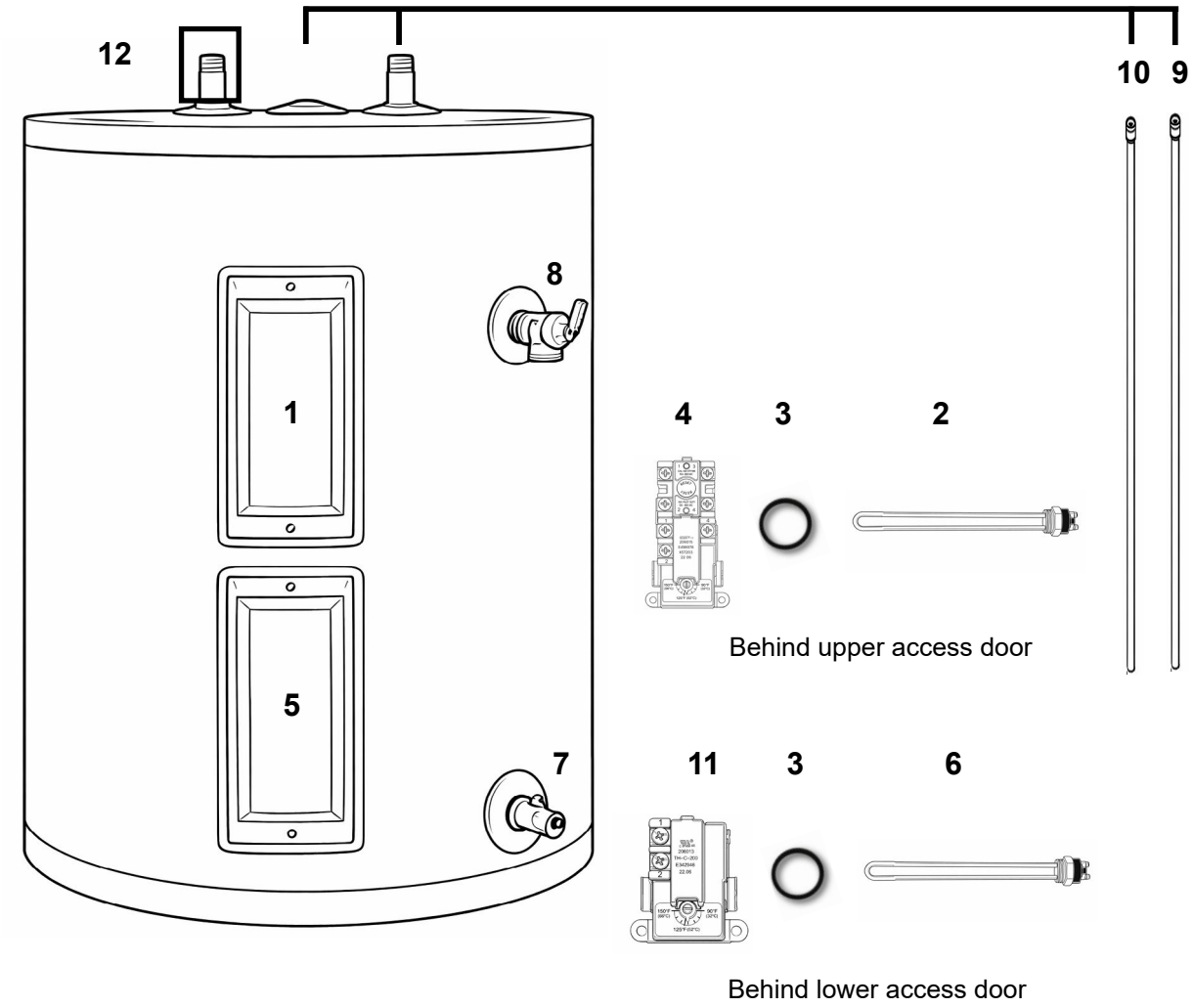
Thermostat Wiring



BRANCH CIRCUIT SIZING GUIDE Based on N.E.C. NFPA NO. 70 - 1999						
WATT LOAD	Recommend Over Current Protection Rating			Copper Wire Size AWG Based on N.E.C. Table 310-16 (60°C)		
	120 V	208 V	240 V	120 V	208 V	240 V
1500*	15	15	15	12	14	14
2000	20	15	15	10	14	14
2500	30	15	15	10	14	14
3000	30	20	15	8	12	12
3500	-	20	20	-	10	12
4000	-	25	20	-	10	10
4500	-	30	25	-	10	10
5000	-	30	30	-	10	10
5500	-		30	-		10

*Wattage less than 1500 may be wired 14 gauge with maximum 15 amp protection.

Replacement Parts



1 Access Door
2 Upper Element
3 Element Gasket
4 Upper Thermostat
5 Access Door
6 Lower Element
7 Drain Valve
8 Temperature and Pressure Relief Valve
9 Dip Tube
10 Anode Rod
11 Lower Thermostat
12 Heat Trap

* Units have different T&P mounting options. This diagram shows the side mount option.

FIND PARTS HERE

Warranty - Tank 6 Years | Parts 1 Year

WHO IS COVERED
Crown Appliances, a brand of Chadwell Supply Inc., provide this warranty only to the original purchaser, as long as they live in the
single-family home where the water heater was first installed. This warranty cannot be transferred and applies only to residential use within the United States.

WHEN IT IS COVERED
This warranty applies only when the water heater is installed, operated, and maintained in accordance with the manufacturer's
instructions. The unit must be installed in a location where any leakage from the tank or connections will not cause damage to
surrounding areas. The temperature and pressure relief valve must be properly piped to a suitable drain to prevent damage if the valve activates. Refer to the installation manual and diagrams for complete instructions. Any replacement unit will be covered for the
remaining term of the original warranty.

WHAT THE MANUFACTURER WILL DO AND THE PERIOD OF COVERAGE
Inner Tank - If the inner tank develops a leak within the warranty period shown on the data plate after original installation, the
Manufacturer will provide a replacement water heater of a comparable model. If an identical model is unavailable due to product changes or obsolescence, a unit of similar capacity and performance will be provided. Any added features or upgrades included in the replacement may result in additional cost to the Owner.
Component Parts - If any component part (excluding the inner tank) is found to be defective in material or workmanship within the applicable warranty period, the Manufacturer will supply a replacement part. Anode rods are considered maintenance items and are not covered under this warranty.
Return of Defective Units or Parts - The Manufacturer reserves the right to inspect any claimed defect. The Owner is responsible for returning the water heater or defective part(s) to the Manufacturer

WHAT THIS WARRANTY DOES NOT COVER
Exclusive Warranty - This limited warranty replaces all other warranties, whether express or implied, including any implied warranties of merchantability or fitness for a particular purpose.
Limitation of Liability - The Manufacturer is not responsible for any incidental, consequential, special, or indirect damages or
expenses resulting from defects in the water heater or its use.

WATER DAMAGE - The Manufacturer is not liable for any water damage caused directly or indirectly by the water heater or its
components.

CONDITIONS THAT VOID COVERAGE - This warranty does not apply if the water heater or any of its components has been subject to any of the following:
Misuse, alteration, neglect, or accident
Improper installation or failure to comply with local codes or applicable standards
Failure to follow manufacturer installation, operation, or maintenance instructions
Operation without a full tank (dry firing)

(continued)

Warranty - Tank 6 Years | Parts 1 Year

Submersion in water or exposure to flooding
Exposure to corrosive environments
Use with non-potable or desalinated (deionized) water
Installation outdoors or relocation from the original installation site
Operation outside factory temperature settings
Issues related to noise, taste, odor, discoloration, or rust
Unauthorized modifications or conversions (fuel type, voltage, or wattage)
Failure to operate at the rated input or fuel type
Damage caused by sediment buildup
Missing or improper installation of a certified temperature and pressure relief valve
Exposure to fire, lightning, or other natural events
Installation in a closed system without proper thermal expansion protection

Owner Responsibility for Costs
Unless prohibited by state law, the Owner is responsible for all costs related to service, including:
Labor for removal, repair, or installation
Shipping, freight, and delivery charges
Required materials and permits
Costs to return defective parts or units
No Modifications
The terms of this limited warranty cannot be altered by any person, regardless of representation.

HOW STATE LAW MAY RELATE TO THIS WARRANTY
Some states do not allow limits on the duration of implied warranties, so these limitations may not apply to you. In addition, certain states do not permit the exclusion or limitation of incidental or consequential damages, so those exclusions may not apply. This
warranty provides you with specific legal rights, and you may also have other rights that vary by state. If a failure of the water heater results in property damage or personal injury, the party making a claim—including the owner or insurance provider—must retain the unit in its original condition at the time of the incident. Failure to do so may result in denial of the claim due to loss of evidence. The Company is not responsible for damage or injury caused by improper installation, inadequate maintenance, or conditions occurring after the point of sale. For faster resolution, owners are encouraged to work with their homeowner's or property insurance provider before submitting a claim.

HOW TO MAKE A WARRANTY CLAIM
Use the contact information below whenever any inquiry or request is made, be sure to include the water heater's product number, model number, serial number, date of purchase, date of installation, and location of installation.

OWNER NAME

PHONE #

ADDRESS OF INSTALLATION

UNIT MODEL # / SERIAL NUMBER

CITY / STATE-PROVINCE / ZIP-POSTAL CODE

UNIT DATE OF PURCHASE

INSTALLER NAME

www.ChadwellSupply.com

For further information about this warranty, contact Customer Service at 888-341-2423 or customerservice@ChadwellSupply.com