

Installation Instructions and Use & Care Guide



Residential Gas Water Heater

Residential Atmospheric Gas Water Heater
with the Flame Lock® Safety System

DO NOT RETURN THIS UNIT TO THE STORE



Read this manual and the labels on the water heater before you install, operate, or service it. If you have difficulty following the directions, or aren't sure you can safely and properly do any of this work yourself:

- Call your Lowe's® store to have this water heater installed. Lowe's® Professional Installation is available for this product and the work is guaranteed.
- Schedule an appointment with a qualified person to install your water heater.
- Call our Technical Assistance Hotline at . We can help you with installation, operations, troubleshooting, or maintenance. Before you call, write down the model and serial number from the water heater's data plate.

Incorrect installation, operation, or service can damage the water heater, your house and other property, and present risks including fire, scalding, electric shock, and explosion, causing serious injury or death.

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WARNING: If the information in these instructions is not followed exactly, a fire or explosion may result causing property damage, personal injury or death.

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

WHAT TO DO IF YOU SMELL GAS

- Do not try to light any appliance.
- Do not touch any electrical switch; do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

Installation and service must be performed by a qualified installer, service agency or the gas supplier.



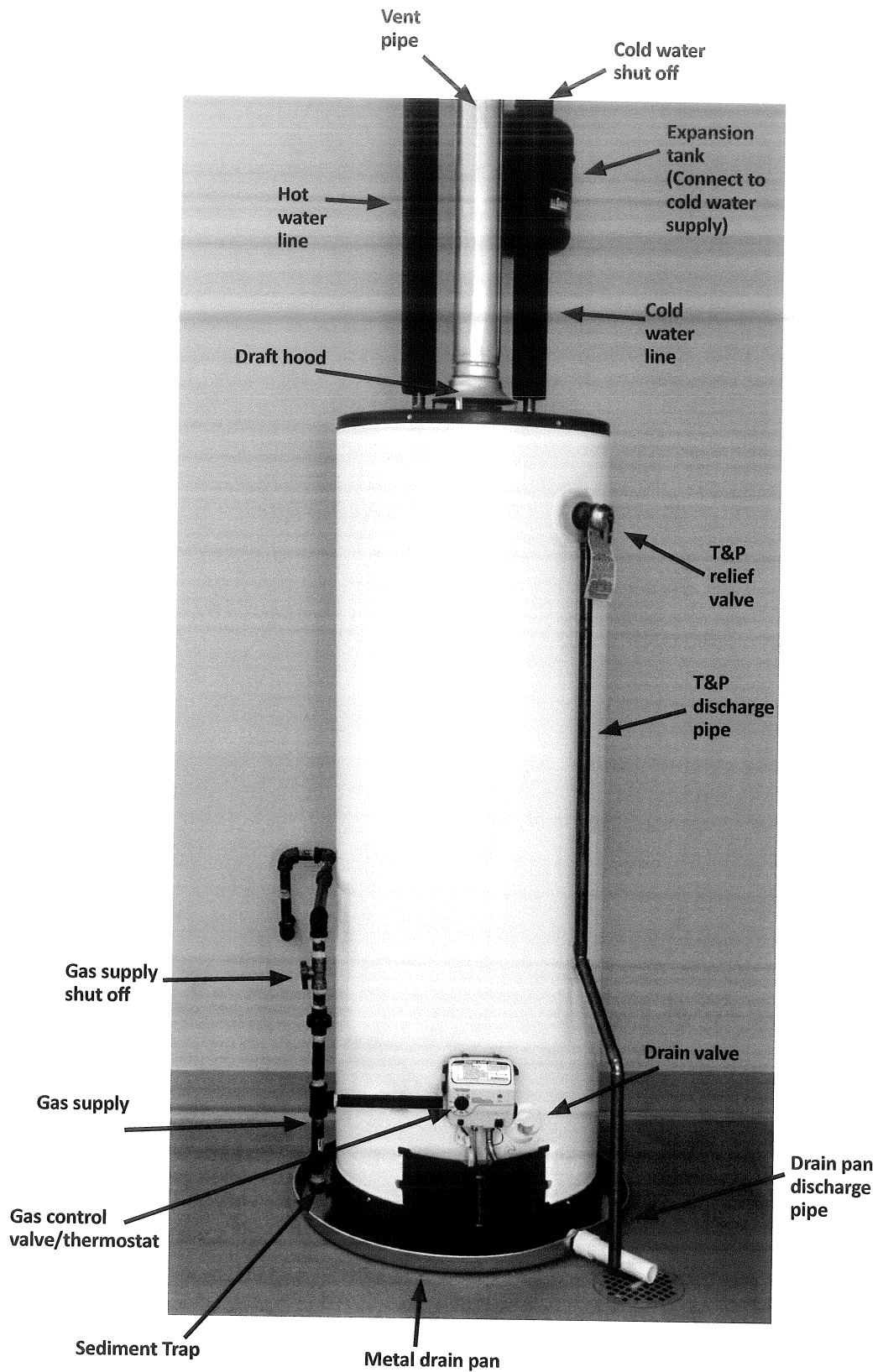
LOW LEAD
CONTENT



Keep this manual in the pocket on heater for future reference whenever maintenance, adjustment or service is required.

Retain your original receipt as proof of purchase.

COMPLETED INSTALLATION (TYPICAL)



GETTING STARTED

1 Review all of the instructions before you begin work. **If you aren't sure that you can safely and properly do this work yourself, call your Lowe's® store to arrange for Professional Installation (you may also call a qualified person of your choice, such as a licensed plumber, to have the work done).** Improper installation can damage the water heater, your home and other property, and can present risks of serious injury or death.

2 This water heater is design-certified by CSA International as a Category I, non-direct vented water heater which takes its combustion air either from the installation area or from air ducted to the unit from the outside. This water heater must be installed according to all local and state codes or, in the absence of local and state codes, the "National Fuel Gas Code", ANSI Z223.1(NFPA 54)-current edition. This is available from the following:

CSA America, Inc.
8501 East Pleasant Valley Road
Cleveland, OH 44131

National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02269

Check with local code officials about codes governing this installation. Have your installation inspected by a code official to ensure the installation meets all local codes.

NOTICE: If you lack the necessary skills required to properly install this water heater, or you have difficulty following the instructions, you should not proceed but have a qualified person perform the installation of this water heater.

Massachusetts code requires this water heater to be installed in accordance with Massachusetts 248-CMR 2.00 and 248-CMR 5.00: State Plumbing Code. Other local and state authorities may have similar requirements or other codes applicable to the installation of this water heater.

3 Before you start, be sure you have the following tools and supplies:

- Common plumbing tools (depending on what type of water pipes you have).
- Teflon® tape or pipe joint compound approved for potable water.
- For homes with copper pipes, you may purchase a Gas Water Heater Hook-Up Kit (available from Lowe's®) with compression fittings that don't require soldering. This kit includes two 12" flex water lines, two compression fittings, an 18" flexible gas line, two nipples, and Teflon® tape.
- For homes with plastic pipe, use threaded connectors suitable for the specific type of plastic pipe used: CPVC or PEX (cross-linked polyethylene). Do not use PVC pipe.
- Non-corrosive gas leak detection solution made from hand dish-washing soap mixed with water (1 part soap to 15 parts water) or children's soap bubbles and a small, soft-bristled brush.
- An appliance dolly or hand truck to move the water heater.

Recommended Accessories:

- A metal drain pan.
- Automatic water leak detection and shut-off device.
- Pressure Reducing Valve.
- Thermal Expansion Tank.
- Thermostatic Mixing Valves at each

point-of-use.

- Fuel gas and carbon monoxide detector.

Combustion and Ventilation Air Supply

Before installing the water heater, you must determine the amount of air needed to supply this water heater and any other gas appliances in the same area and provide adequate air for combustion and ventilation. Consult a qualified person if you're unsure of the proper way to supply air to your water heater.

▲ WARNING! This gas water heater requires an adequate source of clean air for combustion and ventilation. Without sufficient air, your water heater will have frequent pilot outages and may emit excessive and abnormal amounts of carbon monoxide.

Before beginning:

Calculate total BTU/HR rating of all appliances.

To calculate the combustion air and ventilation required, add up the total BTU/HR ratings of all gas burning appliances (e.g., water heaters, furnaces, clothes dryers) in the same area.

Your water heater's BTU/HR rating is on the data plate, located next to the gas control valve/thermostat. The BTU/HR ratings should be on the other appliances' data plates. If you have trouble determining the BTU/HR ratings, contact the manufacturer or have a qualified person determine the ventilation requirements. **NOTICE:** If you are replacing your old water heater with one that has a higher BTU/HR rating, the amount of ventilation required may be greater.

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Example:

Gas Burning Appliance	BTU/HR Rating
Gas Water Heater	40,000
Furnace	75,000
Dryer	20,000
Total	135,000

Your Appliances:

Gas Burning Appliance	BTU/HR Rating
Gas Water Heater	
Total	

Table 2 provides examples of minimum square footage (area) required for various BTU/HR totals. Areas used for storage or which contain large objects containing less air than is assumed for the room sizes in Table 2 – see Option A for more specific calculations.

Option A: Installation without outside ventilation (not recommended)

Ventilation with outside air is recommended for all installations. Even if the water heater is installed in a large, open room inside the house, outdoor air is usually needed because modern homes are very tightly sealed and often do not supply enough air to the water heater. However, when installed in a large indoor space, it may be possible to provide enough air without outside ventilation. If you are unsure if your installation location has enough ventilation, contact your local gas utility company or code officials for a safety inspection.

The following instructions will help determine if it may be possible to install without outside ventilation. Even if this may be possible, you will need to conduct the vent draft test on pages 23-24 when installation is finished. If there is not enough ventilation, you will need to ventilate with outside air.

Check for Chemicals:

Installations where corrosive chemicals may be present require outside air. Air for combustion and ventilation must be clean and free of corrosive or acid-forming chemicals such as sulfur, fluorine, and chlorine. Ventilation with outside air will reduce these chemicals, but it may not completely eliminate them. Failure due to corrosive chemicals is not covered by the warranty. Examples of locations that require outside air due to chemicals include:

- Beauty salons
- Photo processing labs
- Indoor pools
- Laundry, hobby, or craft rooms
- Chemical storage areas

Products such as aerosol sprays, detergents, bleaches, cleaning solvents, gasoline, air fresheners, paint and varnish removers, and refrigerants should not be stored or used near the water heater.

A1: Calculate the air volume of the room

Air requirements depend on the size of the room.

Floor Area (Square feet) X Ceiling Height (feet) = Room Volume (cubic feet)

If there are large objects in the room (e.g., refrigerator, furnace, car), subtract their volume from the volume of the room to get a better estimate of the air available.

Room Volume – Object Volume = Air Volume

Table 2

BTU/HR Input	Minimum Square Feet with 8' Ceiling	Typical Room with 8' Ceiling
30,000	188	9 x 21
45,000	281	14 x 20
60,000	375	15 x 25
75,000	469	15 x 31
90,000	563	20 x 28
105,000	657	20 x 33
120,000	750	25 x 30
135,000	844	28 x 30

GETTING STARTED

Venting

▲ WARNING! Carbon Monoxide Hazard. This water heater must be supplied with adequate air and vented to outdoors. The vent system must be installed by a qualified person. Examples of a qualified person include gas technicians, authorized gas company personnel, and authorized service technicians. Failure to properly vent the water heater can result in severe injury or death from carbon monoxide poisoning.

The vent system must be installed according to local and state codes, or in the absence of local or state codes, the current edition of the National Fuel Gas Code, ANSI Z223.1 (NFPA 54). Do not common vent this water heater with any power vented appliance. Do not use a vent damper anywhere in the vent system of this water heater.

To reduce the risk of carbon monoxide poisoning, install a fuel gas and carbon monoxide detector. Install and maintain the detector in accordance with the manufacturer's instructions and local codes.

Replacing a Water Heater Using the Existing Vent System

Read the "Installing a New Vent System" section of this manual and make sure your vent system is properly installed. Inspect the existing vent system for obstructions, corrosion, and proper installation. Repair or replace if necessary. The existing vent system must be UL listed Type B double wall or single wall metal vent pipe of either 3 inch or 4 inch diameter and installed according to the vent manufacturer's instructions and the terms of its listing. Do not use other materials such as dryer vent hose.

Installing a New Vent System

The vent pipe must meet the following specifications:

Type of Material

UL listed Type B double wall or single wall metal vent pipe must be used. Local codes may be more restrictive and may not allow single wall vent pipe. Single-wall vent pipe cannot be used for water heaters located in attics and may not pass through attic spaces, crawl spaces, or any confined or inaccessible location. Single-wall vent pipe cannot pass through any interior wall.

Clearance to Combustible Materials

The vent pipe cannot pass through any ceiling, floor, firewall, or fire partition. Any part of the vent system must maintain the following clearances from any combustible materials:

- Single-wall vent pipe must maintain a six inch clearance from combustible materials.
- The clearance from combustible materials of UL listed Type B double-wall vent pipe is specified by the manufacturer of the vent pipe. UL listed Type B double-wall vent pipe may pass through walls or partitions constructed of combustible material if the minimum clearance specified by the manufacturer of the vent pipe is maintained.

Vent Installation

To improve the flow of exhaust gases, we recommend that a minimum of 12 inches of vertical vent pipe be installed on the draft hood prior to any elbow. A portion of the vent pipe (up to 75% of the total vertical height) can be horizontal, but the termination must be vertical. For the horizontal section, install without dips or sags with an

upward slope of at least $\frac{1}{4}$ inch per foot. Install pipe avoiding unnecessary bends. Pipe joints must be fastened by sheet metal screws or other approved means. Support the pipe to maintain clearances and to avoid separation of joints or other damage. Vent pipe must be accessible for cleaning, inspection, and replacement.

Terminations

If local codes allow, this water heater may be terminated into an existing chimney using the instructions below. Otherwise, this water heater's vent must terminate vertically (sidewall or other horizontal terminations are not allowed).

Chimney Termination

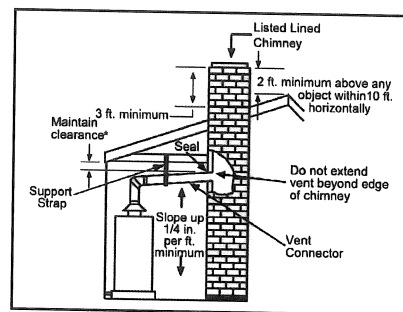


Figure 7 - Chimney termination vent system

NOTICE: Before connecting a vent to a chimney, make sure the chimney passageway is clear and free of obstructions. The chimney must be cleaned if previously used for venting solid fuel appliances or fireplaces. Also consult local and state codes for proper chimney sizing and application or, in the absence of local and state codes, the "National Fuel Gas Code", ANSI Z223.1(NFPA 54)-current edition.

- The vent pipe must be installed above the extreme bottom of the chimney to prevent potentially blocking the flue gases.