



How to Winterize a Home

INTRODUCTION:

This is a step-by-step guide to winterizing a residential property. This should apply to the vast majority of properties. However, some homes may have atypical systems in place and may require steps not included in this document.

There are two types of winterizations:

Dry Winterization– the winterization of a property with a [forced hot air heating system](#) (only the plumbing needs to be winterized)

Wet Winterization– the winterization of a property with a [forced hot water \(or steam\) heating system](#) (both the plumbing and the heating systems have to be winterized)

PROCEDURES:

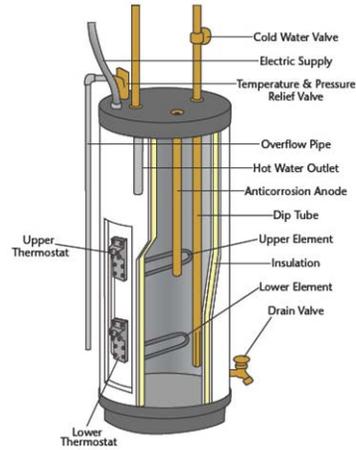
If you arrive at the home and find that it has been previously winterized, NVMS still requires that you go through the entire winterization process to ensure that it is current and up to its clients' standards.

STEP 1:

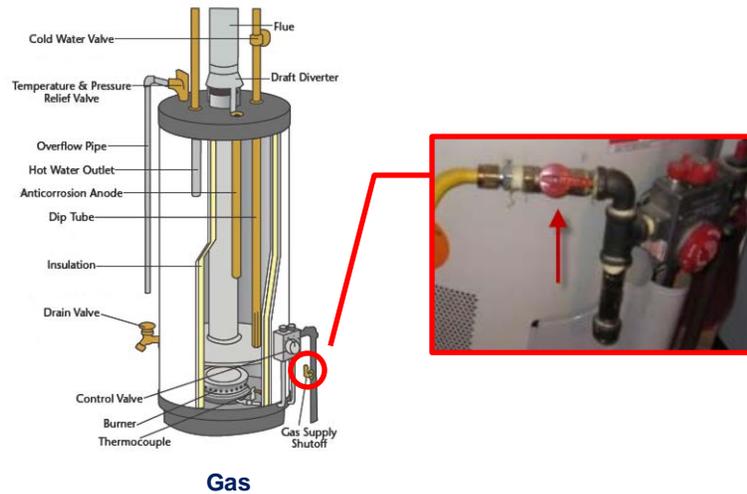
Turn off the electricity or fuel supply for the [water heater](#), the [boiler](#), and any water treatment systems (if present).

Water Heaters:

If the water heater is electric, locate the [breaker panel](#) and flip the breaker for the water heater. If the home has a [fuse box](#) remove the fuse for the water heater to turn off its electric supply.



If the water heater is gas-fired, locate the gas shut-off valve, which is in close proximity to the heater itself. Turn the lever $\frac{1}{4}$ turn (so that it is perpendicular to the gas line) to shut off the fuel supply.



Boilers:

If a boiler is present, the fuel (gas, oil, or liquid propane) and electric supply must be shut off before proceeding.



- 1) Set the boiler's [thermostat](#) to the lowest setting.
- 2) Locate the breaker panel and flip the breaker for the boiler.
- 3) If the home has a fuse box, remove the fuse for the boiler to turn off its electric supply.

If the boiler has a [combination gas valve](#), slightly push in the knob and turn it to the "off" position to stop the fuel supply.



Combination Gas Valve

If the boiler has a [non-combination gas valve](#), close the [main shut-off valve](#) **and** the pilot valve to stop the fuel supply. To close the main shut-off valve, turn the lever ¼ turn so that it is perpendicular to the gas line. To close the pilot valve, switch the lever to the "off" position.

Main Gas Shut-off Valve



Pilot Valve



Non-Combination Gas Valve (includes both)

Well Pump:

If the home is receives its water supply from a [well](#), the electrical power to the [well pump system](#) must be shut off. Locate the breaker panel and flip the breaker for the well pump system. If the home has a fuse box, remove the fuse for the well pump system to turn off its electric supply.



Water Treatment Systems:

There are many types of water treatment systems ([water softeners](#) being the most common), and if any are present, the electrical power must be shut off. Locate the breaker panel and flip the breaker for the treatment system. If the home has a fuse box, remove the fuse for the treatment system to turn off its electric supply.



STEP 2:

Check to determine whether the water in the home is still on:

If the water in the home is still on, turn the water off at the main shut-off (on the “house side” of the [water meter](#)). Do not loosen/disconnect the water supply line at the water meter, because water will still be flowing through the meter from the “city/street side” valve.

There are three main types of shut-off valves:

Gate Valve

A gate valve usually has a round handle (as shown), which, when twisted, open or closes a “gate” which either lets water through or blocks it.



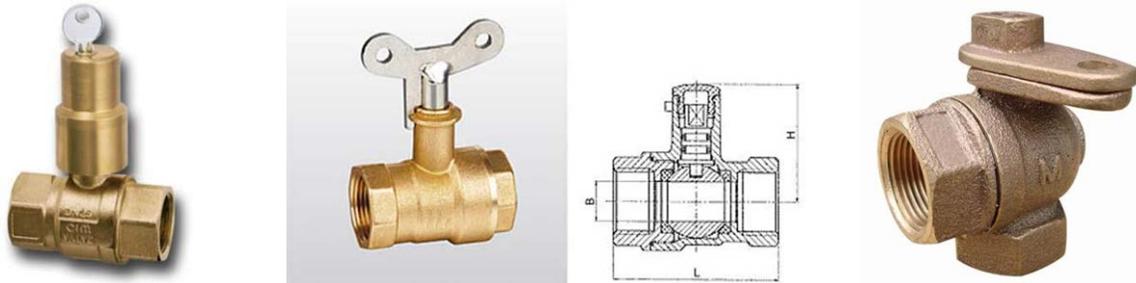
Ball Valve

A ball valve has a handle that, when twisted, turns a ball inside the pipe. The ball has a small channel in it which allows water to pass through when parallel with the pipe.



Lockable Valve

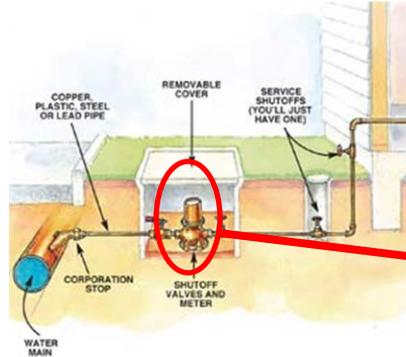
A lockable valve is actually a type of ball valve that requires a special tool to open or close. Some lockable valves use a key or special tool to directly open/close the valve, but most have eyelets which allow a lock to be installed.



The water meter, where the shut-off valve is located, would normally be located in one of two places:

Example 1

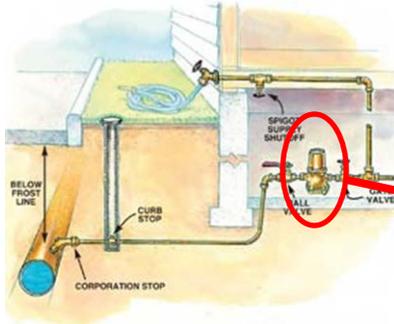
Buried, outside the home (look for a small metal or plastic cover in the driveway, garden or nearby footpath). This location is very common, especially in warmer climates.



Water Meter

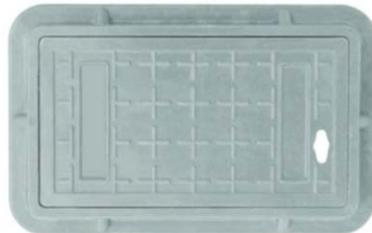
Example 2

Inside the property (normally where the water supply pipe enters the home, often in the basement). The meter will almost always be somewhere between where the water enters the house and the water heater. This is almost always seen in colder climates.



Water Meter

Examples of Water Meter Access Covers



If the water in the home is already off, determine which shut-off valve is “off”. If it is the “house side” valve, do not disconnect the supply line, since water will still be flowing from the “city side” to the meter. If the “city side” valve is off, loosen and/or disconnect the water supply line using a wrench or other appropriate tool on the “house side” of the meter*.

**In many counties, it is illegal to tamper with the “street side” of the house meter because it is considered city/county property. Therefore, it is best not to meddle with anything on the “street side” of the meter.*



When loosening/disconnecting the supply line, be sure not to strip the connection. Once it is disconnected, it is strongly recommended that you properly install a [cap](#) on the water meter side of the disconnection to prevent any possibility of leaks.



Water Supply Line Disconnected at “House Side” of the Water Meter

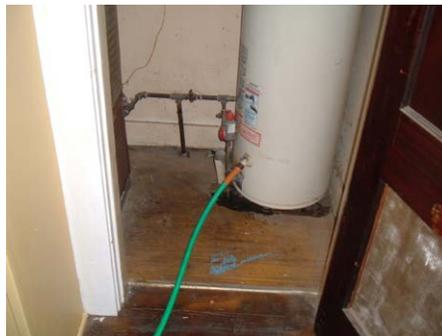
STEP 3:

Gravity-drain all water supply lines and systems with standing water (such as a water heater).

Flush all the toilets to empty the water from the toilet tanks.

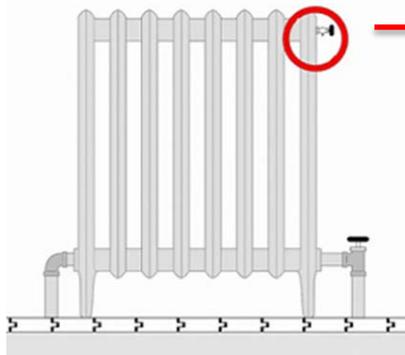
- 1) Open **all** drains, water faucets, and any other present [spigots](#) (such as tub/shower valves and [hose bibs](#)).
- 2) Drain (if present) the water heater, boiler, well storage tank, and water treatment systems.

The process used for draining water heater tanks depends on their location. If the tank is above ground or in a basement with a walkout, a hose can be attached to the tank's spigot and drained out to the exterior (try to drain it far enough away from the door so as not to create mud that can be tracked in). If the tank is in a basement without a [walkout](#), it must be drained into a [floor drain](#). *When draining into a floor drain, use caution to monitor the drain to avoid overflow/flooding.* However, many older homes have no floor drains (especially in the Northeast). In this case the water must be drained into buckets and carried/dumped outside.



Water Heater Being Drained

If completing a “wet wint”, a winterization including a water heating system, drain the system from the lowest point in the house, which is usually the boiler (although not always). You may need to open all [bleeder valves](#) if there are older [radiators](#) in order to drain them properly.



STEP 4:

After gravity-driven drainage stops, close all spigots except the one at the lowest point. Then, starting on the highest level, open each spigot, one at a time, and blow any remaining water out of the line using compressed air (medium pressure). Make sure to blow all faucets, hose bibs, and the washing machine supply line. Seal the connection to the best of your abilities to let as little air escape as possible. See photos below:



Washing Machine Supply Line (Threaded Connection)



Tub Spigot



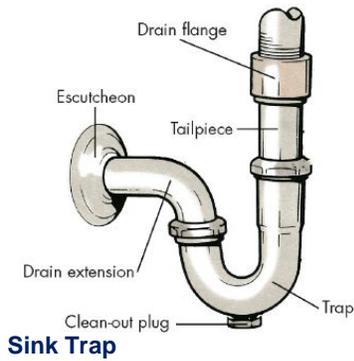
Faucet

Be sure to take a photo of the [pressure gauge](#) (with full pressure) on your [air compressor](#) before blowing the water out of the lines:



STEP 5:

Pour non-toxic [antifreeze](#) in all [traps](#) and toilets.



You must use **non-toxic** RV or marine antifreeze.



All sink traps, tub drains, shower drains, and the dishwasher must each get at least **one cup** of antifreeze. Each toilet tank and bowl needs at least **one quart** of antifreeze.



Toilet Tank



Toilet Bowl



Tub



Sink



Dishwasher

There is no need to vacuum standing water from the toilet bowl. The optimal ratio of antifreeze to water is 50:50.

STEP 6:

Post winterization signs.

The main “Home Has Been Winterized” sign, with the date and detailed information, must be placed in a visible location near the main entry to the home.



A “Water Heater Has Been Winterized” sign must be taped to the water heater.



A “Home Has Been Winterized – Do Not Turn on Power to Water Heater or Equipment” sign must be posted on or next to the breaker panel or fuse box.



A “Home Has Been Winterized – Do Not Use” sign should be placed at the main shut-off valve, at each sink, on the dishwasher, on the closed seat of each toilet, and in each tub/shower.



Get printable winterization signs in this NVMS document (look at the third page):
<http://www.nvms.com/application/forms/KAM%20-%20Winterization.pdf>

STEP 7:

Set the thermostat to 55°.

GLOSSARY:

Air Compressor – a compressor that takes in air at atmospheric pressure and delivers it at a higher pressure



Antifreeze – a liquid added to water to lower its freezing point; in a winterization, non-toxic antifreeze must always be used



Bleeder Valve – a small valve on a pipeline, pump, or tank used to vent air, oil, or condensation



Boiler – a household device providing a hot-water supply or serving a central heating system.



Breaker Panel – a component of an electricity supply system which divides an electrical power feed into subsidiary circuits, while providing a protective circuit breaker for each circuit, in a common enclosure



Cap – a type of pipe fitting, usually liquid or gas tight, which covers the end of a pipe



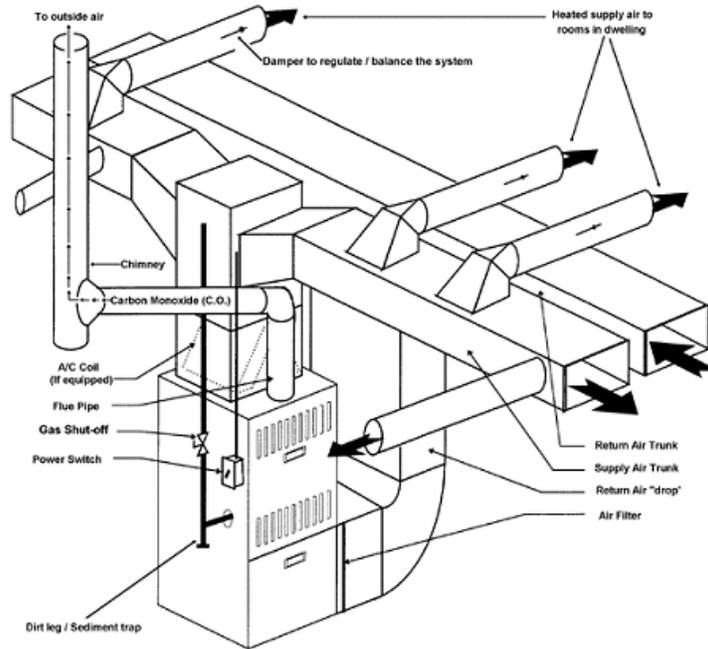
Combination Gas Valve – a type of gas valve with one shut-off that controls both the main gas supply and the pilot



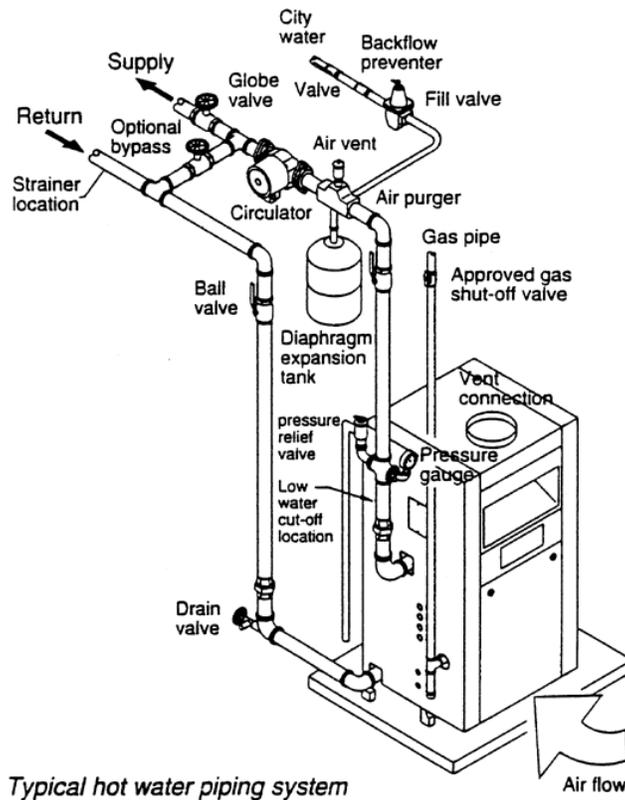
Floor Drain – a plumbing fixture that is installed in the floor of a structure, mainly designed to remove any standing water near it



Forced Hot Air Heating System – a heating system which uses air as its heat transfer medium; these systems rely on ductwork, vents, and plenums as means of heat distribution



Forced Hot Water (Or Steam) Heating System – a heating system which uses hot water or steam as its heat transfer medium; these systems rely on boilers and radiators as means of heat distribution



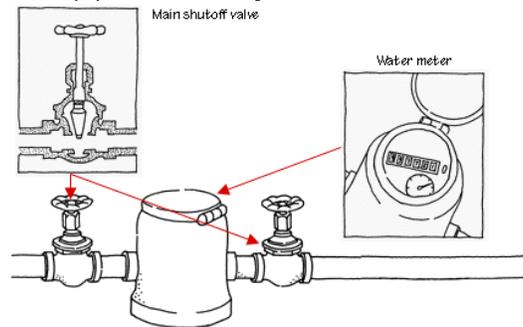
Fuse Box – a component of an electricity supply system which divides an electrical power feed into subsidiary circuits, while providing a protective fuse for each circuit, in a common enclosure



Hose Bib – a threaded faucet also known as a wall hydrant which can connect to a water hose



Main Shut-Off Valve – a valve which controls the main water supply flowing into a home; the main shut-off valve(s) are usually located next to the water meter



Non-Combination Gas Valve – a type of gas valve with two shut-offs: one to control the main gas supply, and another to control the pilot.



Pressure Gauge – an instrument used to measure pressure



Radiator – a heat exchanger used to transfer thermal energy from one medium to another for the purpose of cooling and heating; there are two types: single-pipe, which work with steam, and double-pipe, which work with steam or hot water



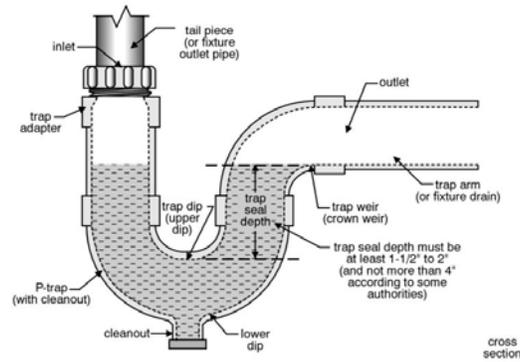
Spigot – any type of faucet



Thermostat – a device that automatically regulates temperature or that activates a device when the temperature reaches a certain point



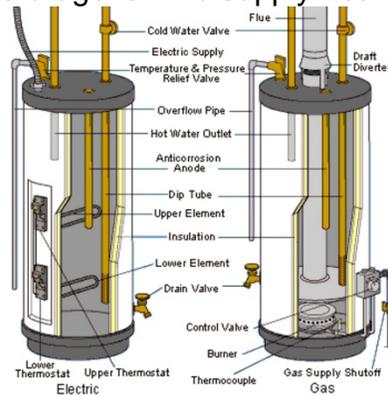
Traps – a U-, S-, or J-shaped pipe located below or within a plumbing fixture; the bend is used to prevent sewer gases from entering buildings



Walkout – a doorway in a basement which leads directly to a ground level patio or backyard



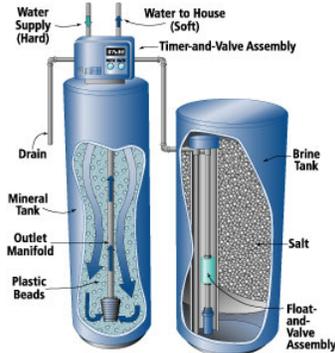
Water Heater – a heater and storage tank to supply heated water



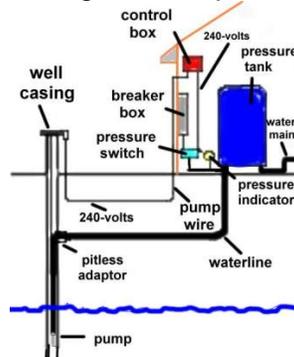
Water Meter – a meter for measuring the quantity of water passing through a particular outlet



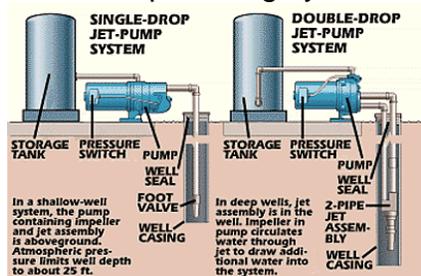
Water Softener – a device or substance that softens hard water by removing certain minerals



Well – an excavation or structure created in the ground by digging, driving, boring, or drilling to access groundwater in underground aquifers



Well Pump System – a household pump system that pressurizes and injects water from a cistern or a well into the home's plumbing system



Well Storage Tank – a tank in a water well system that can help store water to increase the available water supply

