



WATER HEATER REQUIREMENTS

Insulation required on hot and cold pipes within 5 ft. of water heater. Recirculation pipes require insulation for their entire length. (Energy 150.0j2A)

Gas shutoff valve required within 6 ft. (1212.5)

Gas line requires sediment trap downstream of shutoff valve as close as practical to appliance inlet and upstream of appliance connector. See sediment trap handout.

A source of combustion air is required. Water heaters in closets require openings of at least 100 sq. in. each within 12 inches of the top and bottom of the closet.

When the water heater is in the path of vehicles, bollards are required. 507.13.1

Water heaters in garages FVIR type or elevated so ignition source min. 18 in. above floor. (507.13)

B Vent terminating min 1 ft. above roof in approved cap. Double-wall "B" vents are required and must have 1 in. clearance to combustibles. Single wall connectors are allowed with min. 6 in. clear to combustibles.

Seismic restraint straps in upper and lower 1/3 of tank with lag screws to framing. Lower strap min. 4 in. above controls. Offset bracket coupling so it is not directly above the control. Provide blocking between water heater and wall. (507.2)

Temperature & Pressure Relief Valve (TPRV) drain pipe cannot run uphill and must terminate on the exterior of the building, pointing down, 6 – 24 in. above grade with no threads on end. The pipe must be hard-drawn copper, galvanized, CPVC, or pipe listed for the purpose (507.5) and may not drain to pan (608.5).

Min 1½ in. deep pan with ¾ in. drain required when water heater is over space where leakage could cause damage to wood framing. (507.5) Discharge pipe to approved location.

- **A Plumbing permit** is required to install, remove, replace, raise, lower, or relocate a water heater. [CPC 502.1]. A permit must be obtained before beginning the work. Work performed without proper permits is subject to additional fees. Water heaters cannot be installed in bedrooms or bathrooms or their closets.
- **Sediment trap** shall be installed downstream of the appliance shut off valve as close to the inlet of the appliance as practical, and upstream of appliance connector. [CPC 1212.9]

Gas Appliance Venting

- Type "B" vents must extend above the roof, through a flashing, and terminate in a listed vent cap or roof jack which shall be installed according to its listing and the manufacturer's installation instructions. The vent height above the roof surface shall be in accordance with Section 509.6.2. Up to a 6:12 roof slope the minimum height is 1ft.
- Type "B" gas vents must terminate at least 5 feet above the highest connected draft hood or flue collar.
- Vent connectors must be as short and straight as practical and cannot pass through walls or ceilings. The maximum horizontal connector length is 75% of the height for single wall, 100% of the height for double-wall. When venting in common with another appliance, the smaller appliance should connect above the larger one, should be as high as possible for the available headroom, and the maximum connector length is 18 inches per inch of diameter.
- Connector sections must be screwed together and to the draft hood with at least 3 screws at each joint. Use listed transition fittings from single wall to type "B" vent. Screws and other fasteners cannot penetrate the inner wall of a double wall vent, and double wall vent cannot be cut. Use of tape to seal joints or to support a vent is not permitted.

Expansion Tank

- An expansion tank is required for any system with a check valve, backflow preventer or pressure regulator (no exceptions) that prevents dissipation of building pressure back into the water main (608.3).

Inspections

- Final inspection is required after the water heater has been installed and all work has been completed. The permit card and approved job copy of the drawings (if any) must be presented to the inspector. Re-inspection fees may apply if access to the inspection is not provided, the job is not ready for the inspection, or when required corrections have not been made. Additional energy code requirements apply for new (never previously occupied) buildings.