

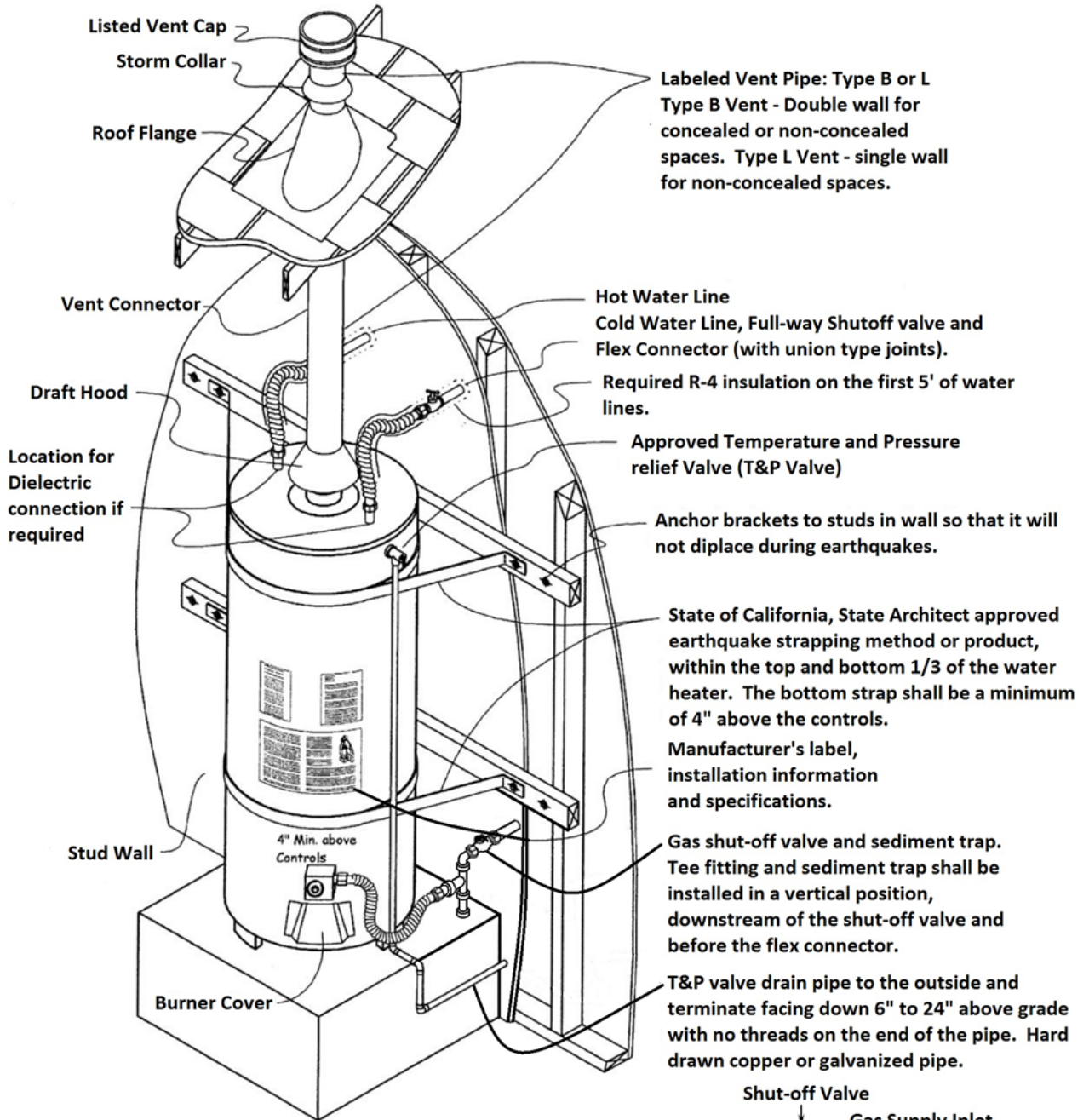


**City of Laguna Niguel
Building Division**

30111 Crown Valley Pkwy
Laguna Niguel, CA 92677
(949)362-4360
www.cityoflagunaniguel.org

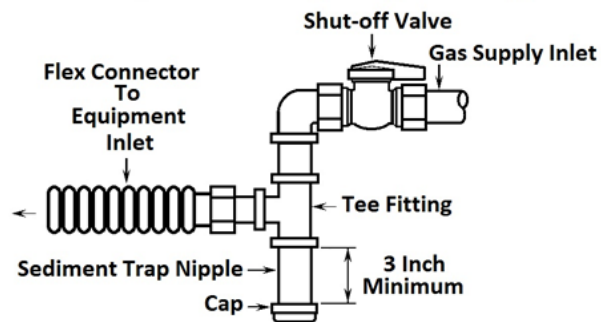
WATER HEATER

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Appliances in garages shall be installed 18" above the floor to the burner-ignition device unless listed as flammable vapor ignition resistant (FVIR)

Water heaters installed in attic spaces or on floors susceptible to damage shall be equipped with a drain pan with a 3/4" drain to an approved location



Proper Sediment Trap Installation



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General Notes

1. This information is intended to provide general guidance on the installation of gas water heaters in single family residences. It summarizes information contained in the California Plumbing Code (CPC) and the Building Code, but does not replace it. Manufacturer's installation instructions are an integral part of the installation requirements and shall be followed accordingly. If conditions are encountered that are not covered herein, the codes shall be consulted. Copies of the code can be reviewed in many libraries or at your local Building Division.
2. Most home improvement stores sell kits to anchor strap water heaters. These kits must be approved by the State of California, State Architect. This is demonstrated by the seal of the State Architect, which looks like a sea-shell with inches "ACCEPTABLE METHOD" written below. Install these kits per the installation instructions. Other methods which have been approved by the State Architect may be submitted to the Building Official for approval.
3. Manufacturer's labels include instructions for installation and requirements for required clearances from combustibles and other important information, so it is important to review this information prior to installation.
4. Access to water heaters must be provided with an opening at least 24 inches wide and large enough to remove the heater. See the code for additional requirements.
5. Fuel gas piping flex connectors must be approved for the type of installation, exterior or interior grade based on location.
6. The inlet and outlet water heater lines must be at least 6 inches away from the draft hood. Provide a full-way valve on the inlet side of the heater.
7. Mixing of dissimilar metals is not permitted, unless dielectric insulators are used in the connections.
8. A sediment trap shall be installed in a vertical position downstream of the shut-off valve and before the flex-connector.
9. If the water system is closed, an expansion tank at the water heater will be required. Closed systems include backflow devices and check valve systems.

Location Requirements

1. Interior Installation - The water heater shall not be installed in a room used for sleeping purposes, in clothes closets or in any confined space opening into a bedroom or bath. A drain pan at least 2 inches deep and 2 inches wider than the unit must be provided with a drain to an approved location or fixture.
2. Exterior Installation - The water heater must be located on a level concrete slab at least 3 inches above grade and located in an approved enclosure.
3. Garage Installation - The burner of the water heater must be located at least 18 inches above the floor to preclude the ignition of combustible vapors unless listed as Flammable Vapor Ignition Resistant (FVIR) & must be protected from vehicular damage.



4. Change of Water Heaters - Water Heaters replaced in the same location must be installed per the manufacturer's installation Instructions. Water heaters which are relocated must comply with all new code requirements.

Combustion Air

1. Fuel burning water heaters must be provided with air to assure proper combustion of fuel and ventilation. The required size of combustion air openings is detailed in the CPC. For water heaters 50 gallons or less, a combustion air duct of 25 square inches (6 inches round) is required. The combustion air duct can take air from the outside of the building or a ventilated attic (min. of 30 inches in height).
2. Combustion air openings must be placed so that one-half enters within 12 inches off the floor. The cross section of the duct cannot be less than 3 inches in the smallest dimension. There shall be at least 10 feet from the return air inlet of a blower-type furnace.
3. For larger water heaters, multiple fuel burning appliances in a single area, or if different duct sizes are used, review the code for the combustion air requirements.

Venting Requirements

1. Vents must terminate in accordance with the drawing to the right. Consult the Building Official for conditions not shown.
2. Single wall vent connectors must be fastened with (3) sheet metal screws, rivets, etc.
3. Single wall vent connectors must start and end in the same place as the water heater. No portion of the connector can be concealed within the construction of the building
4. Vent connectors must be the same size as the draft hood outlet on the appliance. They must slope up from the draft hood to the vent at least 1/4 inches per foot. The total horizontal length of the venting system, including vent and vent connector, must not exceed 75% of the vertical height of the vent.
5. Provide separation to combustible materials as required by labeling requirements of vent pipe.
6. When a vent penetrates a ceiling, a thimble (also known as a bucket or fire stop) shall be installed at the ceiling line.

