



City of Manhattan Beach

Community Development

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Inspection Request (310) 802-5542 FOR NEXT WORKDAY INSPECTION. Call before 3p

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TANKLESS WATER HEATERS

PLEASE NOTE: The New California Codes are in Effect

INTRODUCTION

This information is intended to provide general guidance on the installation of tankless gas water heaters in single family residences. It summarizes information contained in the 2007 California Plumbing Code (CPC) and the 2005 California Energy Efficiency Standards (CEES T-24) and is not meant to replace them.

If conditions are encountered that are not covered, please consult the appropriate plumbing and mechanical code books. They are available for review in many libraries and the Community Development Department. All water heater installations and replacements require a **plumbing** permit and multiple inspections.

Tankless water heater installation **may not** assume that a fuel gas system that already exists will be adequate. CPC508.20

It is common for tankless water heaters to require **four to five** times the typical BTU input of a standard water heater. Consequently, the gas line to the existing tank type water heater in retrofit application may not have sufficient capacity to supply a tankless water heater. A new dedicated supply line may be needed. A tankless water heater is not considered a direct replacement for a tank type heater.

PERMITS

All new and retrofit tankless water heater plumbing permit applications must contain the following information:

- Supply gas pipe sizing calculations.
- The name of the Manufacturer, Model number and BTUs required for the unit to be installed.
- An electrical source must also be provided.
- Tankless water heaters installed on the outside of a building will require planning approval and be the type approved for outside installation.

GENERAL REQUIREMENTS

- Water heaters located in garages must be protected from mechanical damage. This means placing them out of the path of vehicular traffic or providing a protective post or partition. (CPC508.14.2)
- Provide a temperature and pressure relief valve as required by the manufacturer. Hard pipe plumb to the outside and directed to the ground and terminate a minimum of 6" and a maximum of 24" above grade. When replacing an existing tank type water heater, the T & P must be re-installed to drain to the outside. Relief valve may not discharge into a secondary drain pan. (CPC508.5)
- All lines shall be insulated if using recirculation pump system.
- A water heater located above habitable space, where damage may occur if a leak developed, a secondary pan with a 3/4" minimum drain line to the outside is required. (CPC508.4)

PROHIBITED LOCATIONS

Gas tankless water heaters must not be installed in a room used or designed to be used for sleeping purposes. They must not be installed in clothes closets or in closet or other confined space opening into a bath or bedroom. The exception to these rules is a direct vent type tankless water heater which is listed for installation in these types of spaces or an electric water heater.

- Water heaters located in a bedroom or bathroom are required to:
 - Be installed in a dedicated closet with a listed, gasket door assembly and a self-closing device.
 - All combustion air shall be obtained from the outside. (CPC505.1)
- Units shall be located a minimum 3'-0" from the property line (PL).

FUEL GAS

Fuel gas piping must be sized for the demand upon it. (CPC508.20) Refer to the attached gas pipe sizing diagrams. A listed, properly sized flexible supply with a maximum length if 3 feet is allowed. Do not re-use an old flexible supply line.

COMBUSTION AIR & VENTING

Tankless water heaters shall be provided with combustion air and venting, per the manufacturer's instructions.

Tankless water heaters located within habitable space will require submittal of the manufacturer's specifications for combustion air supply and venting.

Vents shall terminate 4'-0" minimum from property line.

CLEARANCES

- Clearances for most water heaters are found on the appliance label.
- Please note the front and top clearance is usually greater than the side and rear.
- Access and working space must be provided.
- The opening must be at least 24" wide and large enough to remove the tankless water heater.
- Tankless water heaters installed in a garage must be elevated 18" above the floor unless it is listed as having a sealed combustion chamber. (CPC508.14) Note that electric water heaters with a switch and/or heating element located less than 18" above the base must also be elevated 18" above garage floor.
- Tankless water heaters located over 8 feet above the floor must have a permanent stair or ladder for access. (CPC511.2)