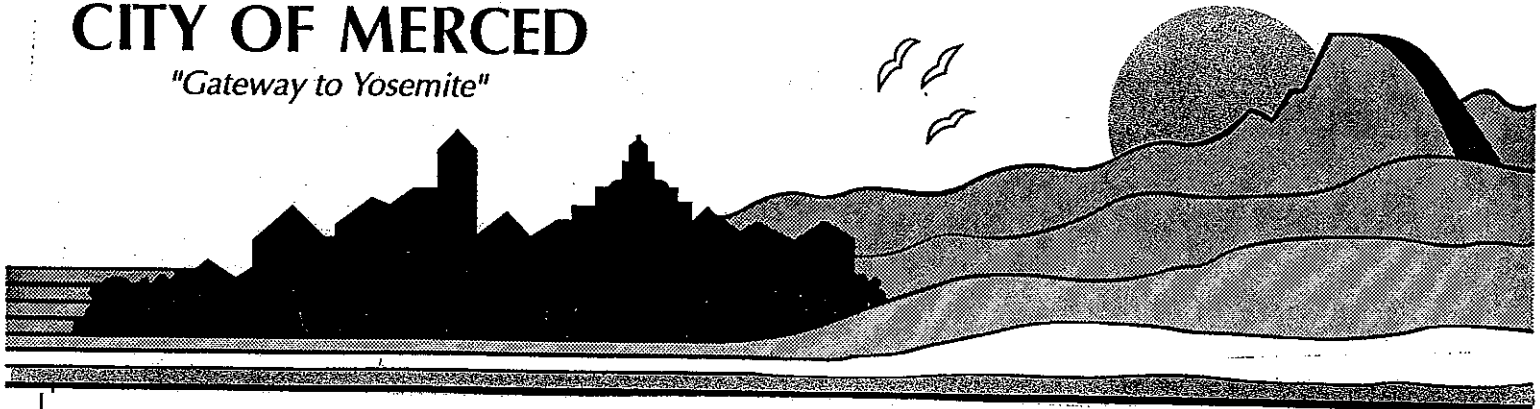


# CITY OF MERCED

"Gateway to Yosemite"



## 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 Building Department. All water heater installations and replacements require a building permit and multiple inspections.

Tankless water heater installations **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 a retro fit 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 permit applications must contain the following information;

- Supply gas pipe sizing calculations.
- The Manufacturer, Model number and BTUs required for the unit to be installed.
- An electrical source must also be provided.
- Tankless 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. (CPC 508.5)
- All lines shall be insulated if using a 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. (CPC 508.4)

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### **MAIL IN PERMITS**

Currently, the City of Dana Point does not allow this type of water heater to be processed as a "Mail In Permit" The extent of changes required for a tankless installation require a review process.

### **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 a 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 tankless water heater.

Water heaters located in a bedroom or bathroom are required to:

- a. Be installed in a dedicated closet with a listed, gasketed door assembly and a self closing device.
- b. All combustion air shall be obtained from the outside. CPC 505.1

### **FUEL GAS**

Fuel gas piping must be sized for the demand upon it. CPC 508.20 See the fuel gas pipe sizing handout available at the Building and Safety Counter. A listed, properly sized flexible supply with a maximum length of 3 feet is allowed. Do not re-use an old flexible supply line.

### **COMBUSTION AIR**

Tankless water heaters shall be provided with combustion air per the manufacturer's installation instructions

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

### **VENTING**

Tankless water heaters shall be provided with proper venting per the manufacturer's installation instructions

### **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.
- Tankless water heaters located over 8 feet above the floor must have a permanent stair or ladder for access (CPC 511.2)