



City of Millbrae

TANKLESS WATER HEATERS RESIDENTIAL PERMIT REQUIREMENTS

TANKLESS WATER HEATER

A permit is required for the installation or replacement of any water heater. This brochure covers the residential code requirements for the installation of tankless water heaters. The California Energy Code requires that all water heaters, including tankless, meet minimum efficiency standards. Existing gas fired storage tank water heaters can be replaced with a 0.80 or higher energy factor instantaneous tankless water heater.

GAS PIPING

Because tankless water heaters require larger gas supply piping than storage tank type, new gas piping will typically be required. A gas piping diagram and calculations need to be submitted for review prior to the permit issuance. The diagram must include the make, model, and BTU rating of the tankless water heater. For more information, see our Gas Pipe brochure.

FLUES

Tankless water heaters shall vent to exterior per manufacturer's printed instructions. The instructions must be on site and available for the inspector. Type B flues used for standard water heaters typically cannot be used for tankless water heaters. Required clearances to combustibles for flues on tankless units are more than on storage tank type.

TEMPERATURE AND PRESSURE RELIEF VALVES

A temperature and pressure relief valve connected to a drain line which extends to the exterior of the building, points downward, and discharges between 6 and 24 inches above grade is required. If you cannot drain to the outside, other locations for termination may be approved. The drain line must be 3/4" minimum, and the end cannot be threaded.

COMBUSTION AIR

All water heater installations must comply with current codes for combustion air. For direct vent units, combustion air to be provided per manufacturer's specifications. Properly sized air vents to the exterior are typically required for garage installations.

ELECTRICAL CONNECTION

Tankless water heaters require a 120 volt electrical connection to operate. The power cord should be plugged into a grounded three pin electric outlet within six feet of the water heater. Extension cords are not allowed.

BONDING

Metallic water and gas pipes shall be bonded to prevent shock hazards. A #8 or larger copper wire is required for bonding the gas, hot and cold water piping at the water heater.

INSPECTIONS

Usually only one inspection is needed after the water heater has been installed and all work is completed. If new gas piping is installed the piping will require a pressure test. The air pressure test must hold for ten minutes with no drop in pressure. Use a test gauge with 1/10lb. increments with a pressure range no more than twice the test pressure. Have the manufacturers' installation instructions and permit available for the inspector at time of inspection.

Typical inspection will include:

- Mounting of the unit
- Temperature and pressure relief valve and piping
- Combustion air
- Gas piping and test when required.
- Electrical bonding, and supply connection
- Flue venting, clearances, and weather cap

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