



## TANKLESS WATER HEATER INSTALLATION

### PERMIT REQUIREMENTS

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

- Supply gas pipe sizing calculations, BTUs and pipe distances (2022 CPC 1215.5, see sample of isometric diagram, Figure 2, on page 2).
- The manufacturer, model number and BTUs required for the unit to be installed (specification sheets).
- An electrical source must also be provided. Receptacles for tankless water heaters installed in a garage or outdoors must be GFCI protected.
- 2 sets of specification sheets are required, along with any additional documentation requirements indicated in this guide.
- Plans must be legible.

### GENERAL REQUIREMENTS

- Water heaters located in garages must be protected from mechanical damage. This means being installed behind a protective barrier or by being elevated or located out of the normal path of vehicle. (2019 CPC 507.13.1)
- Provide a temperature and pressure relief (TPR) valve as required by the manufacturer installation instructions. Discharge piping shall drain independently by gravity into a drainage system or to exterior of building. Drain piping end shall not exceed 24" and not less than 6" above the ground, pointing downward. No part of drainage pipe shall be trapped or subject to freezing and the terminal end shall not be threaded. Relief valve may not discharge into a secondary drain pan and the termination point must be readily observable. (2022 CPC 608.5(1) thru (8))
- All domestic hot water supply lines shall be insulated. Piping insulation shall have a minimum wall thickness of not less than the pipe diameter. (2022 CPC 609.12.2)
- A water heater located above habitable space (attic, etc.), where damage may occur if a leak develops, requires a watertight pan of corrosive-resistant material not less than 1 1/2" in depth and with a 3/4" minimum drain line to an approved location. (2022 CPC 507.5)

### PROHIBITED LOCATIONS

- Gas tankless water heaters must not be installed in a room used or designed to be used for sleeping purposes. Fuel-burning water heaters shall be permitted to be installed in a bedroom or bathroom if installation complies with one of the following (2022 CPC 504.1(1) and (2)):
  - A) Installed in a dedicated closet with a listed, gasketed door assembly and a self-closing device (2022 CPC 504.1.1 and 504.1.2). All combustion air shall be obtained from the exterior. (2019 CPC 506.4)
  - B) Water heater shall be of the direct vent type.

### FUEL GAS

- Fuel gas piping must be sized for the demand upon it. (2022 CPC 507.18)

## COMBUSTION AIR/VENTING

- Tankless water heaters shall be provided with combustion air as 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.
  - Not to be vented in combination with other appliances. (2022 CPC 509.10.3.2)

## CLEARANCES

- Clearances as per manufacturer's installation instructions. Most water heaters, clearances are found on the appliance label.
- Please note that front and top clearance is usually greater than the side and rear.
- Access and working space must be provided.
- The appliance space shall be provided with an opening or doorway not less than twenty-four (24) inches (609.6mm) wide and large enough to remove the tankless water heater.
- Tankless water heaters installed in a garage or in adjacent spaces that open to the garage must be elevated at least 18" above the floor unless it is listed as having a sealed combustion chamber. (CPC 507.13)

## SAMPLE ISOMETRIC DIAGRAM

