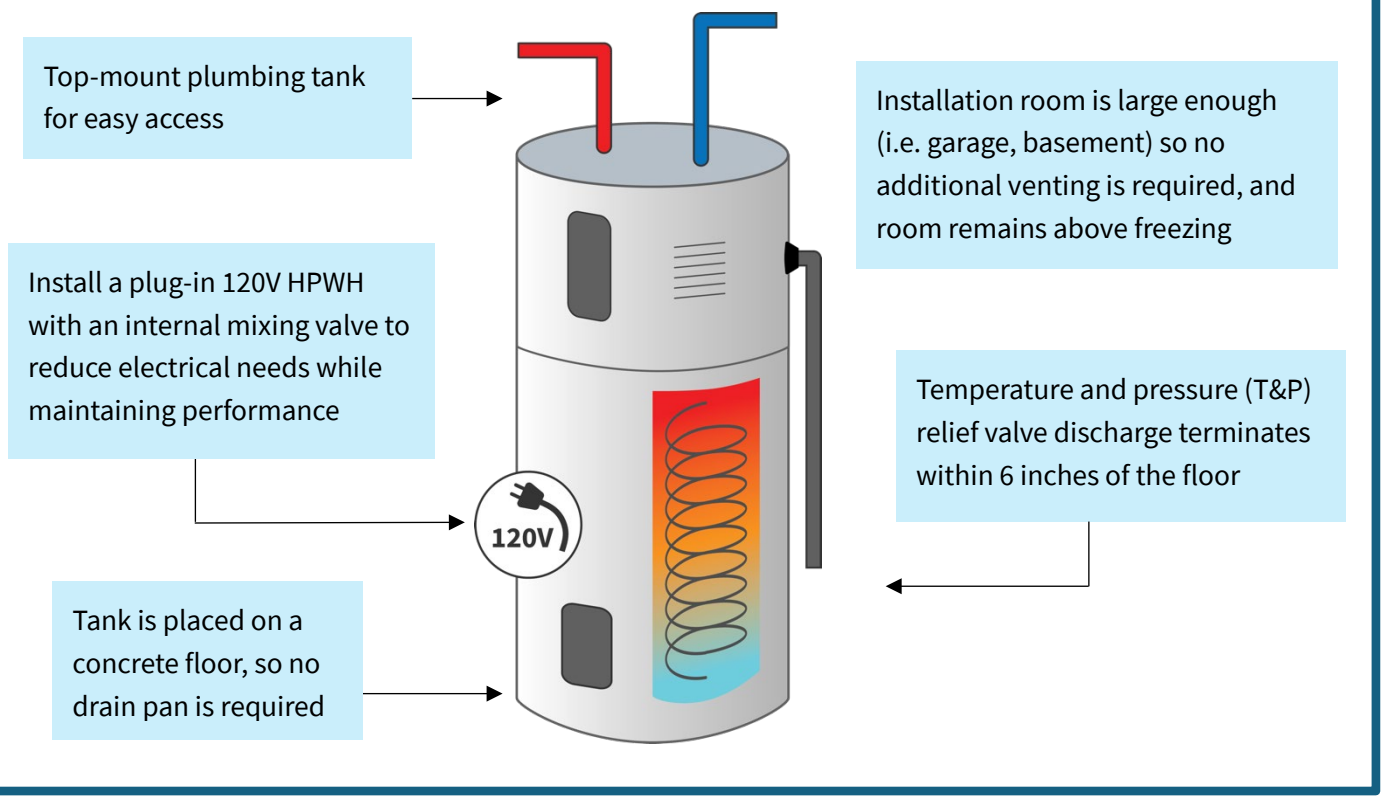
Can I install my own Heat Pump Water Heater?

Heat pump water heaters (HPWH) are a new, high efficiency alternative to conventional gas or electric water heaters. As their operation and installation is more complex, it is recommended that a homeowner consider using the services of a professional contractor. However, a handy homeowner can self-install, or work assisted by a contractor or a friend/family member with plumbing and electrical experience. This guide aims to help homeowners find technical resources and guides to better understand the steps for completing a quality HPWH installation.

The two pages below explore examples of “simple” and “complex” HPWH installations, to assist you in deciding if you want to DIY or hire a professional contractor.

Key Elements of a “Simple” HPWH Installation



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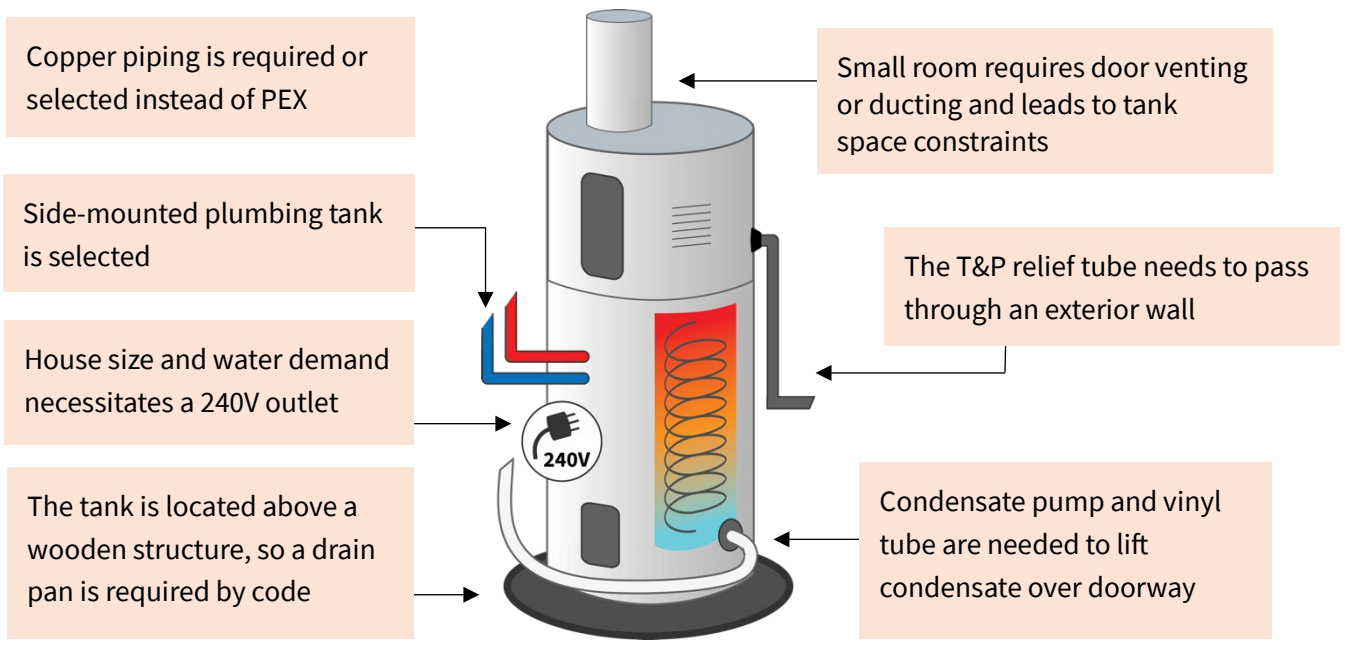
Key Elements of a "Complex" HPWH Installation



Additional Impacts on Installation Complexity

- **Permit Type and Cost:** Many jurisdictions require only a plumbing permit for a HPWH install, but some require both a plumbing and electrical permit. Varied local requirements can impact cost.
- **Ventilation:** Project costs increase if additional ducting for ventilation is required.
- **HPWH Weight and Labor:** HPWH's can weigh over 200 pounds, necessitating renting a dolly or getting additional help.
- **Condensate:** Varying jurisdictional requirements for handling condensate impact price and complexity. Plumbing to a utility sink nearby is straightforward and low-cost, while running through a wall to the exterior or installing a condensate pump are more costly. Some jurisdictions allow a pressure relief valve (PRV) to terminate on the garage floor, and some require it to go through an exterior wall. Additionally, installing PRV's or water supply lines might require soldering or sweating copper, if copper pipe is used.
- **Panel Capacity Considerations:** A plug-in 120V model simplifies an installation, though some jurisdictions require a dedicated circuit for a 120V HPWH, even if they are designed for a shared circuit. Additionally, for existing dwelling retrofits, electrical code allows manual load estimates or meter interval data-based calculations. Though meter-based calculations are more accurate, some jurisdictions do not allow them anymore, including if a household has solar. A panel upgrade and adding new circuits is possible to DIY but can be challenging.
- **Plumbing Materials:** In some jurisdictions PEX is not allowed for piping and homeowners must use copper piping, necessitating soldering/sweating copper pipes or purchase pricier flexible copper.
- **Gas Capping:** An uncomplicated technical step, some jurisdictions disallow DIY due to gas leak safety or emissions reasons. Homeowners should have inspectors check that the gas line is safely capped. The venting for the gas water heater will also need to be capped with a sheet-metal cap.
- **Vehicle Protection:** Some jurisdictions will only require a bollard in a garage if the HPWH is front and center while others require it in any garage location.