

## Hot Water tank

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During the home inspection, most clients showed their concern on hot water tank. Although it is a tiny cost comparing the rocketed housing prices, nobody was happy to pay a thousand bucks to change it as soon as the subject got removed. Let alone the tedious work of ordering and installation. We will simply introduce HW tank here for your review.



Figure 1



Figure 2



Figure 3

Normally, residential HW tanks can be sorted in 3 types of natural gas, electric and indirect heated HW tanks. The natural gas heated is the most popular one (figure 1) which we always see. All 3 types have pressure relief valve (figure 2) and drain valve (the white plastic valve at the bottom part of tank in figure 2) installed. These 2 parts are important safety controls for HW tank operation. Once it goes wrong, for example the water pressure over 150 psi in the tank, the pressure relief valve will open to relieve the pressure and avoid blast and body burning. We do not need to touch it but have to watch it occasionally for any dripping or leaking. This would come down to 2 scenarios. If the tank is over 10 years, it should be the time to consider changing a new one. If less than 10 years, the manufacturer or service guy should get involved. It may need to fix the failed valve. The drain valve is also the self maintenance part which is used for cleaning and draining the soft sediment in tank. To hook up a hose and drain to floor drain, then open the valve for 5-10 minutes. This can avoid over heated soft sediment scaling which can cause the corrosion of tank shell. This maintenance operation is not hard and quite safe. The life expectancy could be extended if the tank got drained once a year.

The 3 types of HW tank each has its own pros and cons. The gas heated recovery is fast. The 40 gal tank can accommodate 4-5 people family. To this type we will inspect the connection of the exhaust, the combustible air supplement, gas line and emergency drain. The electric heated tank operation is simple, quiet and clean but the recovery rate is slow. In order to keep the hot water supply, the bigger volume tank is a choice. 60 gal tank is common. We will inspect the wire size and breaker which have to match each other. Indirect heated HW tank is more adopted as long as the heating is popular nowadays. The principle is a big cold and hot water heat exchanger which the tank of water is heated by the spiral pipe cycled from boiler. The operation is clean and quiet also the tank could last longer because there is no extreme heat burning the tank. The thermostat or tempering valve has to be installed on the outlet to avoid burning by high temp hot water.

The life expectancy of HW tank is 10-15 years but may be longer but generally got 6-8 years manufacturer warranty. We recommend to install seismic strap (figure 3), although most family have not done.