How it Works — Heat Pump Water Heaters (HPWHs)

It's generally easier to move something than to make something. Putting that principle to use, HPWHs use electricity to move heat from one place to another instead of generating heat directly.

To understand the concept of heat pumps, imagine a refrigerator working in reverse. While a refrigerator removes heat from an enclosed box and expels that heat to the surrounding air, a HPWH takes the heat from surrounding air and transfers it to water in an enclosed tank.

During periods of high hot water demand, HPWHs switch to standard electric resistance heat (hence they are often referred to as "hybrid" hot water heaters) automatically. HPWH come with control panels that you to select from different operating modes [1], which include:

- Efficiency/Economy – Maximizes energy efficiency and savings by only using the heat pump to heat water
- Auto/Hybrid – The default setting is ideal for daily use, providing energy-efficient water heating with sustained heat
- Electric/Heater – This high-demand setting is the least energy-efficient, using only the electric element to heat water
- Vacation & Timer (not available on all models) – Save on your energy when away from home by placing the unit in "sleep" mode until you return