

Heating problems?

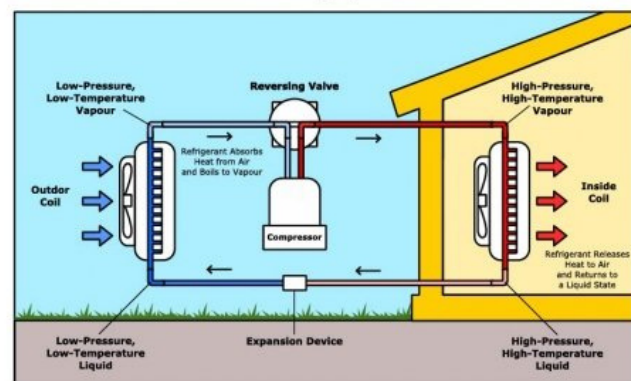
We've got solutions!

All About Heat Pumps

What is it?

- A heat pump is a device that transfers thermal energy between the outdoors and the interior of a building

**Air Source Heat Pumps
Heating Cycle**

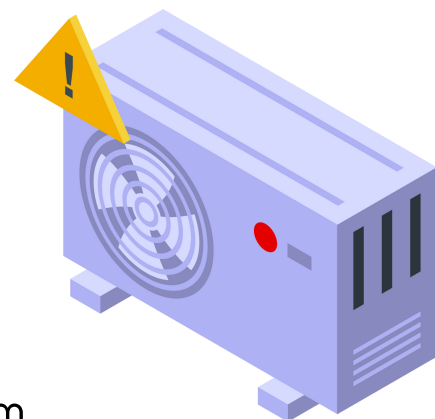


Benefits

- The only machine that can heat, cool, and dehumidify air
- Runs on renewable energy
- Precise control of temperature in living spaces
- No combustion for ducted/unducted heat pumps

Things to Consider when Purchasing

- Pairs nicely with onsite or community shared solar system
- Life expectancy
- Efficiency
- You may need to replace domestic hot water system



Heat Pump Myths

Myth: Heat pumps stop working efficiently below 40 degrees

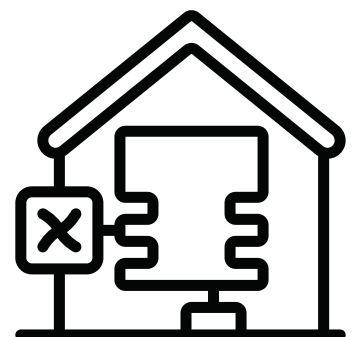
Fact: Cold climate heat pumps can now work more efficiently than comparable heating systems at -25°F

Myth: Heat pumps are excessively noisy

Fact: Modern heat pumps are quieter than they once were. When installed noise should not be an issue, but noise absorbing bases are also an option.

Myth: Heat pumps have a limited lifespan.

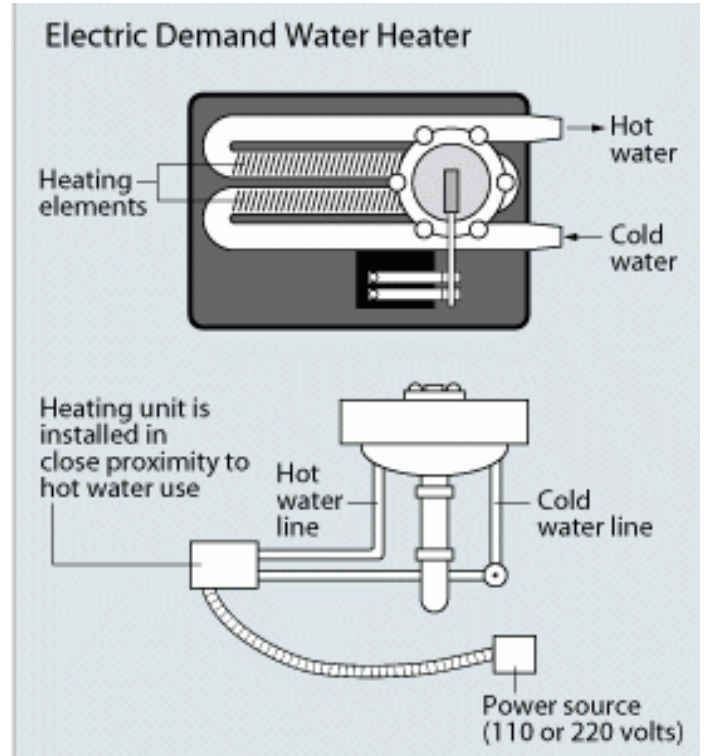
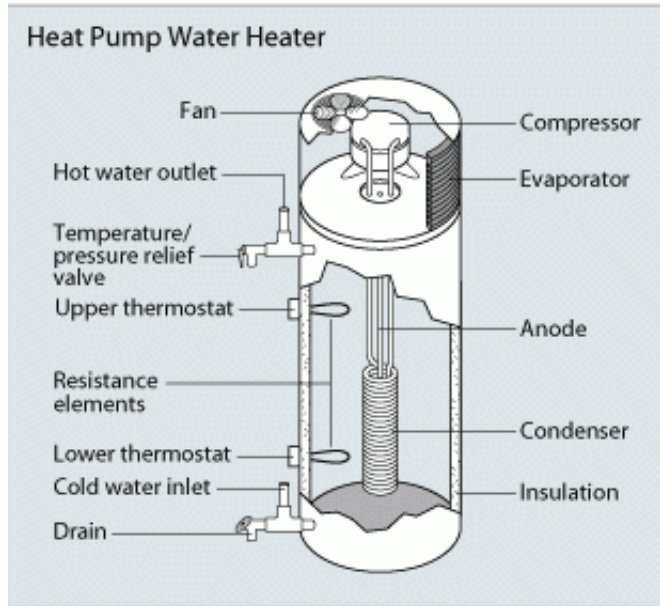
Fact: A high quality heat pump that is properly maintained will last at least 15-20 years.



Heat Pump Water Heaters

What is it?

- A heat pump water heater provides hot water by using electricity to move heat from one place to another instead of generating heat directly.



Benefits



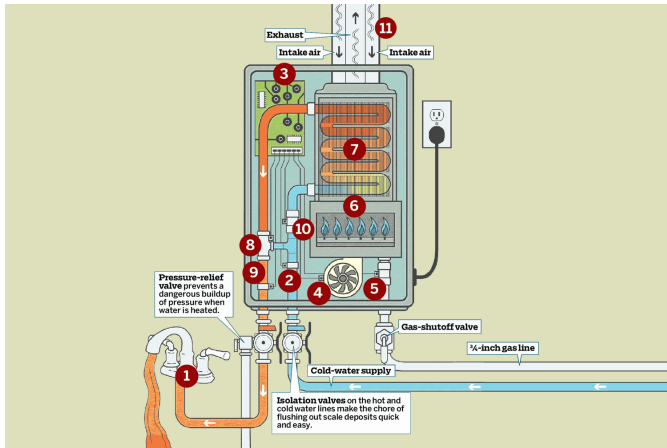
- 2-3x more efficient than an electric resistance water heater.
- You can buy a new system or you can retrofit a heat pump to work with an existing conventional storage water heater.
- If the heat pump is too cold it will switch to electric resistance heating.
- It can be paired with solar hot water.
- Make sure you implement recommendations, primarily insulation and air sealing.



Tankless (or demand-type) Water Heater

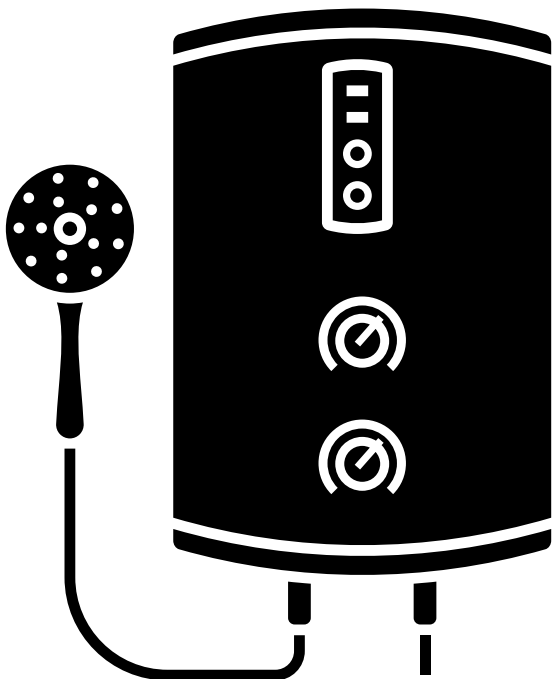
What is it?

- A tankless water heater heats water as it flows through the system, so it only heats the water as you need it.



Benefits

- Provides a constant supply of hot water
- 8-34% more efficient than a conventional storage water heater
- Has a life expectancy of more than 20 yrs compared to storage water heaters (10-15 years)
- Can run on electricity, natural gas, or propane
- Look for efficiency ratings (make sure it's on high demand)



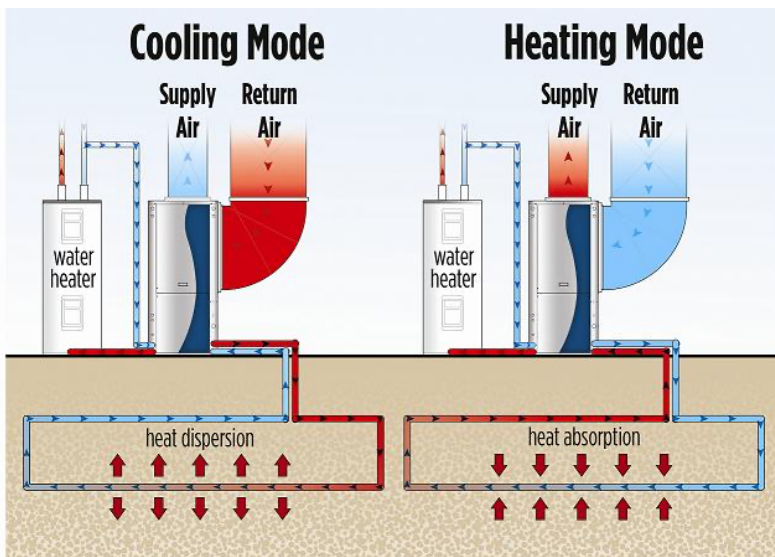
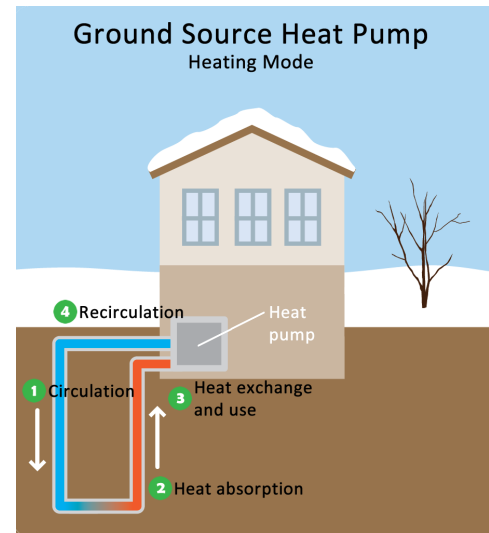
Geothermal/Ground Source/Water Source Heat Pump

What is it?

- A geothermal heat pump draws heat from the ground when it's cold and pulls heat into the ground when it's hot

Benefits

- Quieter
- More efficient bc of static temperature
- Less maintenance
- Can be used to heat water as well



Incentives

- Up to \$15,000 rebate through MassSave
<https://www.masssave.com/saving/residential-rebates/heat-pump-water-heaters>
- 26% Federal tax credit

Types

- Horizontal - Most expensive because it uses water to circulate instead of air which uses more electricity
- Vertical - Conducted using two drilled wells

