ecoblock™

APPLIANCES 101:

KNOW YOUR *HEAT PUMP WATER HEATERS*

01 *WHAT ARE HEAT PUMP WATER HEATERS?*

Heat pump water heaters (HPWHs) work like **refrigerators in reverse**: they use **electricity** to capture **heat** from the surrounding air and transfer it into an **internal water tank**. Water heating accounts for roughly **20 percent** of home energy use and makes up the **largest residential natural gas load**. However, recent technological advances have made HPWHs more effective for efficient electrification.

02 *TYPES OF HEAT PUMP WATER HEATERS*

+ Integrated: Integrated HPWHs have an **internal compressor** on top of the **hot water tank**. They typically include **1–2 electric resistance elements** that provide backup hot water during periods of high demand (e.g, during the colder winter months).

+ Split: Split systems have an **external compressor** that is connected to a hot water tank inside the house. They typically do not include an electric resistance heater.

03 *INSTALLATION CONSIDERATIONS*

+ Size & first hour rating: To properly size a HPWH, consider **how many gallons of hot water** it can supply per hour.

+ Sound & filtration: HPWHs produce **ambient noise** during operation and require regular **air filter cleaning**.

+ Condensate: HPWHs produce **distilled water** that should be drained outside or to a sewer.

+ Location: HPWHs should be placed **indoors**, where temperatures stay between **40°–90°F** year-round.

+ Air space: About **750–1,000 cu. ft.** of air space is needed. The HPWH can be vented to bring in air for intake.

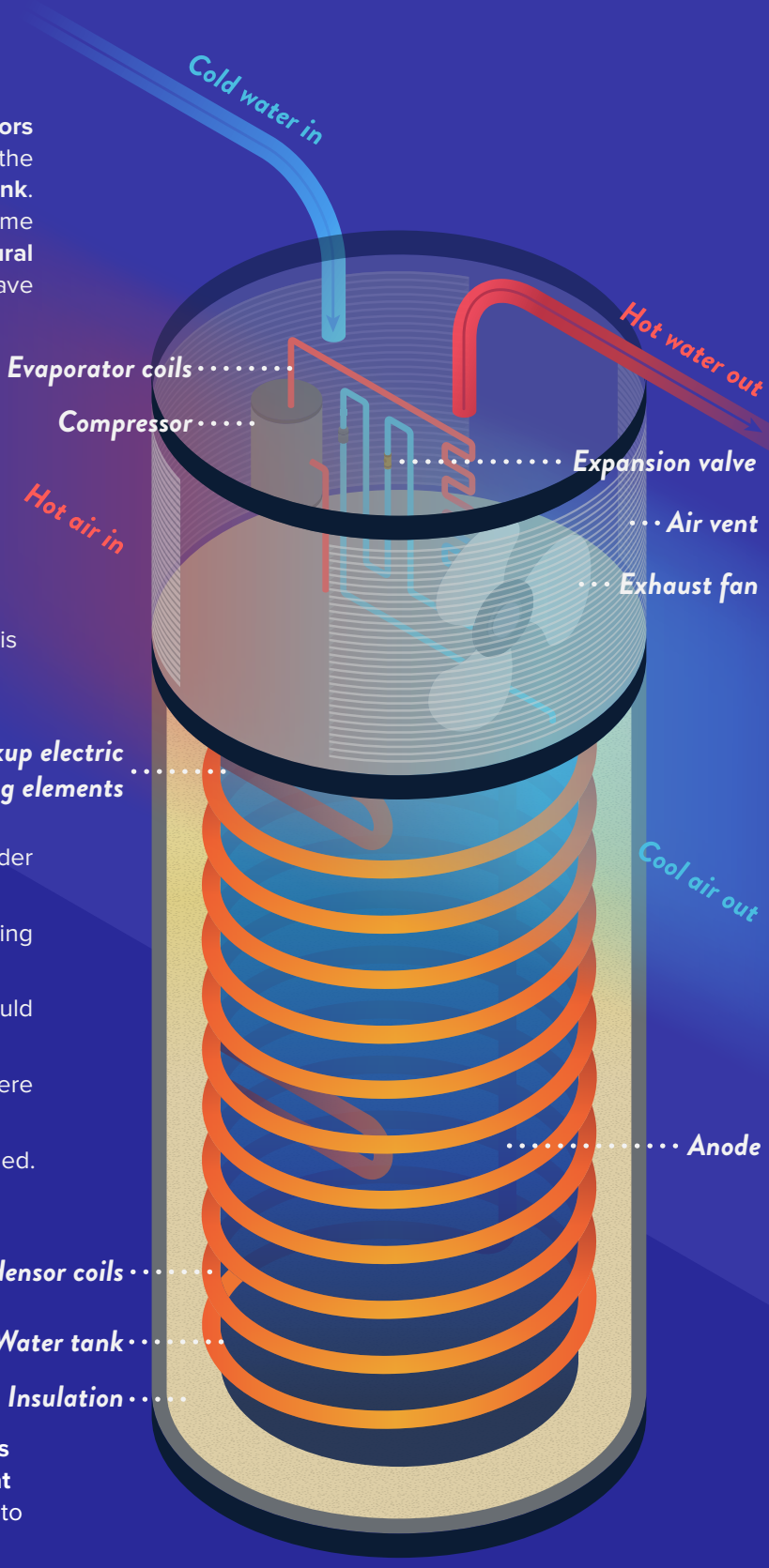
04 *WHY HEAT PUMP WATER HEATERS?*

Pros

+ Can program **mode and set point controls** to optimize operation
+ Premium costs can be offset with **long-term energy savings, federal tax credits & local rebates**

Cons

+ **Higher initial costs**
+ Have **unique space & installation requirements**
+ May take **longer to heat larger volumes of water** to the preset temperature when demand is high



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Sources: Amy Dryden & Therese Peffer, EcoBlock • Bob Vila • Build with Rise • ENERGY STAR • This Old House • U.S. Department of Energy • U.S. Energy Information Administration