Energy Efficiency

The more efficient your water heater is, the less money it will cost to operate. While the price of an efficient unit may be higher than a conventional model, the upfront cost will be more than recovered over the lifetime of the unit in lower monthly energy bills.

Uniform Energy Factor (UEF) is a new metric for determining the energy efficiency of a water heater. UEF’s are determined by the estimated usage of a water heater:

<table>
<thead>
<tr>
<th>Size</th>
<th>Storage Tank Water Heaters</th>
<th>Instantaneous Water Heaters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Small</td>
<td>10 Gal./Hr.</td>
<td>1.5 Gal./Min.</td>
</tr>
<tr>
<td>Low</td>
<td>38 Gal./Hr.</td>
<td>2.5 Gal./Min.</td>
</tr>
<tr>
<td>Medium</td>
<td>55 Gal./Hr.</td>
<td>3.5 Gal./Min.</td>
</tr>
<tr>
<td>High</td>
<td>84 Gal./Hr.</td>
<td>4.5 Gal./Min.</td>
</tr>
</tbody>
</table>

When selecting the most efficient unit for you, consider the fuel type and the capacity needs for your home. It’s important to remember – the higher the UEF, the higher the efficiency and the lower the energy bill.

Uniform Energy Factors (UEFs) are NOT comparable across all categories!

While UEF’s may be higher for some higher usage water heaters oversizing your unit will heat unnecessary water and will cost you more money.

Finding UEF Values
- HTP Website: www.htproducts.com
- AHRI’s certification: www.ahrinet.org
- DOE’s compliance certification database: https://www/regulations.doe.gov/certification-data

UEF vs. EF
Because the UEF metric is so new, you may purchase a water heater that was certified with an EF rating. Models that were rated with EF should have their ratings converted to UEF. You can also check UEF ratings through AHRI’s certification database: www.ahrinet.org/Contractors-Specifiers/Certified-Products.aspx

Other Factors
While there are plenty of factors to consider, here are a few we suggest:
- Warranty
- Smart Controls (vacation mode, modulating thermostat, outdoor reset)
- NOx emissions, especially if you live in an area that requires reduced levels

Save Energy - Save Money

Choosing the right water heater will help reduce your bills and ensure your family has enough hot water!
How to Choose the Correct Water Heater for You

First, Determine Your Fuel Type

Most water heaters use natural gas, liquid propane, or electricity to heat water. You will need to determine which fuel type is available and will be used in your installation location.

Tank or Tankless

Traditional storage water heaters have a large hot water storage tank that stores heated water for when it is needed. Tankless or instantaneous units do not store water and only heat water as needed.

Before purchasing a water heater, it is important to check unit dimensions and electrical and fuel requirements to ensure it will meet your installation location requirements.

How Will the Water Heater Be Used?

Each water heater installation is different and knowing how the unit will be used will be a major factor in selecting the correct capacity.

Here are a few questions you should consider:

- How large is your household?
- What is the unit providing hot water for?
  - Hand-washing
  - Showers
  - Dishwasher
  - Laundry
- What is the size of your home?
- Are there any oversized tubs?

Choosing the Right Capacity

Delivery capacity is the amount of hot water a unit can provide. The delivery capacity for storage water heaters is rated by first hour rating or FHR. For tankless units the delivery capacity is maximum gallons per minute or Max GPM.

- FHR is the amount of hot water the water heater can provide within the first hour of operation
- Max GPM is the maximum flow rate of hot water the water heater can provide in gallons per minute and varies based on temperature rise
- What is the size of your home?
- Are there any oversized tubs?

Water heaters should be chosen based on delivery capacity. Delivery capacity is NOT the same as storage volume or storage capacity.

Delivery Capacity

Use the following tables to help determine the hot water capacity needs for your home.

TypicalRangesof Hot Water Usage

<table>
<thead>
<tr>
<th>Application</th>
<th>Tankless GPM</th>
<th>Tank Gal.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hand-washing</td>
<td>0.5 - 2.2</td>
<td>0.25 - 1.1</td>
</tr>
<tr>
<td>Shower</td>
<td>1.25 - 2.5</td>
<td>10 - 20</td>
</tr>
<tr>
<td>Dishwasher</td>
<td>1 - 2.5</td>
<td>4 - 6</td>
</tr>
<tr>
<td>Clothes Washer</td>
<td>1.5 - 3</td>
<td>7 - 25</td>
</tr>
</tbody>
</table>

Determine the flow rates or gallons used for the appliances and fixtures in your home.

Fill Based on Fixtures in Your Home

<table>
<thead>
<tr>
<th>Application</th>
<th>Usage Amount</th>
<th>Times Used*</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hand-washing</td>
<td>x</td>
<td>=</td>
<td></td>
</tr>
<tr>
<td>Shower</td>
<td>x</td>
<td>=</td>
<td></td>
</tr>
<tr>
<td>Dishwasher</td>
<td>x</td>
<td>=</td>
<td></td>
</tr>
<tr>
<td>Clothes Washer</td>
<td>x</td>
<td>=</td>
<td></td>
</tr>
</tbody>
</table>

*Times used for storage equals the number of uses in 1 hour. For instantaneous, times used equals the number of applications used simultaneously. Use the combined total to find your usage category in the table below.

Find Your Hot Water Usage Category

<table>
<thead>
<tr>
<th>Hot Water Usage</th>
<th>FHR, (Tank)</th>
<th>Max GPM (Tankless)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Small</td>
<td>&lt;18 Gal</td>
<td>&lt;1.7 GPM</td>
</tr>
<tr>
<td>Low</td>
<td>≥18 &amp; &lt;51 Gal</td>
<td>≥1.7 &amp; 2.8 GPM</td>
</tr>
<tr>
<td>Medium</td>
<td>≥51 &amp; &lt;75 Gal</td>
<td>≥2.8 &amp; 4 GPM</td>
</tr>
<tr>
<td>High</td>
<td>≥75 Gal</td>
<td>≥4 GPM</td>
</tr>
</tbody>
</table>

Delivery capacity is printed on the yellow Energy Guide label located on each water heater.
Estimated Yearly Energy Cost

$466

Cost Range of Similar Models

Maximum Gallons Per Minute of Hot Water
(GPM Rating)

- Your cost will depend on your utility rates and use.
- Cost range based only on models fueled by propane with a high GPM rating (over 4.0 gpm).
- Estimated energy cost based on a national average propane cost of $2.41 per gallon.
- Estimated yearly energy use: 193 gallons.

ftc.gov/energy

Energy Star