



# THE COMPLETE HOMEOWNER'S GUIDE

## TANKLESS WATER HEATERS

Everything You Need to Know Before Making the Switch  
in Houston, TX



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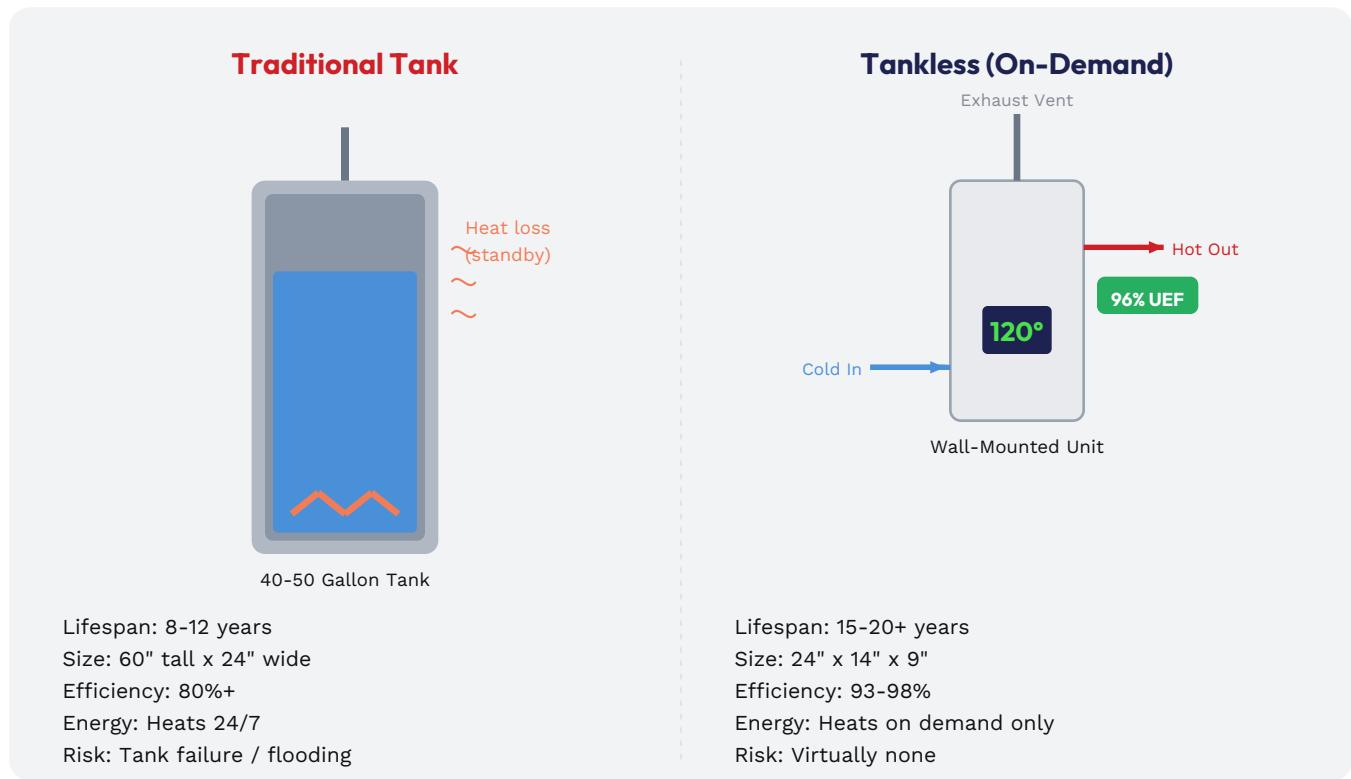
Contact Hot Water Guys today

# What Is a Tankless Water Heater?

Chapter 01 — Understanding On-Demand Hot Water Technology

A tankless water heater, also known as an on-demand water heater, heats water directly without the use of a storage tank. When a hot water tap is turned on, cold water travels through a pipe into the unit where either a gas burner or electric element heats the water instantly. This eliminates the standby energy losses associated with traditional storage tank water heaters, delivering a constant supply of hot water on demand.

## Tank vs. Tankless: Side-by-Side Comparison



### KEY TAKEAWAY

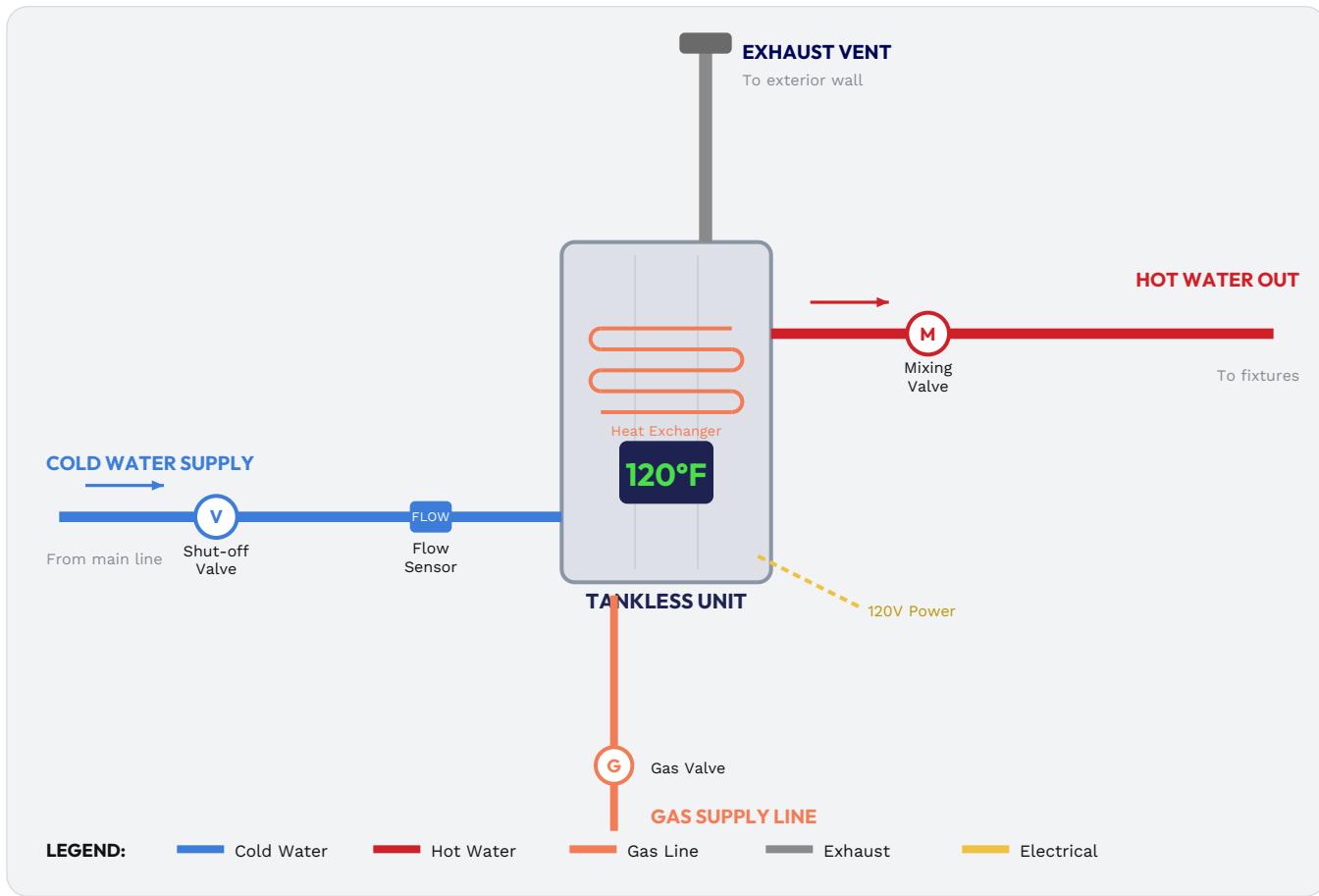
Tankless water heaters eliminate the large storage tank entirely, heating water only when you need it. This means no standby energy loss, no risk of tank failure flooding your home, and a unit that takes up about 90% less space. For Houston homeowners, the switch to tankless is one of the smartest upgrades you can make.

# How Tankless Water Heaters Work

Chapter 02 — Detailed System Diagram & Component Breakdown

When you turn on a hot water faucet, the tankless unit detects water flow through its internal sensor. The gas burner or electric element activates instantly, heating water as it passes through the heat exchanger. The entire process takes just seconds, delivering hot water at your desired temperature for as long as you need it.

## Tankless Water Heater System Diagram



## The Heating Process — Step by Step

- 1 You open a hot water faucet or start an appliance that requires hot water.
- 2 The flow sensor inside the unit detects water movement and activates the system.
- 3 The gas valve opens and the burner ignites, heating the copper heat exchanger.
- 4 Cold water passes through the heat exchanger coils and absorbs the heat instantly.
- 5 Hot water exits the unit at your set temperature (typically 120°F) and flows to your fixture.
- 6 When you close the tap, the flow sensor detects zero flow and shuts the burner off immediately.

# Benefits for Houston Homeowners

Chapter 03 — Why Tankless Is the Smart Choice for Your Home

01

## Endless Hot Water

Never run out of hot water again. Whether you have a large family or enjoy long showers, tankless units deliver continuous hot water on demand. Multiple showers, dishwashers, and washing machines can run simultaneously without the cold water surprises.

02

## Energy Savings of 24-34%

Traditional tank heaters waste energy by keeping 40-50 gallons of water hot 24/7 — even when you are asleep or at work. Tankless units only consume energy when hot water is actively being used, resulting in significant monthly savings on your utility bills.

03

## 15-20+ Year Lifespan

With proper maintenance, tankless water heaters last more than twice as long as traditional tanks. Most quality units come with 10-15 year warranties on the heat exchanger, and many systems operate reliably for over two decades.

04

## Space-Saving Design

Tankless units mount directly to the wall and are about the size of a small suitcase. This frees up valuable garage, closet, or utility room space — especially important in Houston homes where every square foot counts.

05

## Reduced Risk of Water Damage

No tank means no risk of a catastrophic 40-50 gallon tank burst that can flood your home. Tank failures are one of the most common sources of major water damage in Houston homes.

06

## Increased Home Value

A tankless water heater is a premium upgrade that appeals to home buyers. It signals a modern, energy-efficient home and can contribute to a higher resale value.

### Annual Energy Cost Comparison (Houston Average)

Traditional Tank: ~\$600/year

Tankless: ~\$350/year

Save ~\$250/yr

# Sizing Guide: Choosing the Right Unit

Chapter 04 — Flow Rates, Temperature Rise & Household Demand

Proper sizing is critical to ensure your tankless water heater meets your household's hot water demands. The two key factors are flow rate (how many gallons per minute you need) and temperature rise (how much the incoming water needs to be heated).

## Understanding Temperature Rise



### Houston Advantage:

Houston's warm ground water temperature (62-72°F) means a lower temperature rise is needed, allowing your tankless unit to deliver even higher flow rates than in colder climates.

## Typical Flow Rates by Fixture

Fixture	Flow Rate (GPM)	Typical Temp
Bathroom Faucet	0.5 - 1.5 GPM	105°F
Kitchen Faucet	1.0 - 1.5 GPM	110°F
Shower	1.5 - 2.5 GPM	105°F
Bathtub	3.0 - 4.0 GPM	102°F
Dishwasher	1.0 - 2.5 GPM	130°F
Washing Machine	1.5 - 3.0 GPM	120°F

## Recommended Unit Size by Household

1-2 People	2-3 People	3-4 People	5+ People
1 Bathroom <b>6-7 GPM</b> Recommended	2 Bathrooms <b>8-9 GPM</b> Recommended	2-3 Bathrooms <b>9-10 GPM</b> Recommended	3+ Bathrooms <b>10-11 GPM</b> Recommended

### PRO TIP FROM HOT WATER GUYS

We always recommend sizing up slightly to account for simultaneous usage and Houston's occasional cooler winter ground water temperatures. Our free in-home consultation will determine the exact GPM your household needs.

# Top Brands We Install

Chapter 05 — Factory-Authorized Dealer for Leading Manufacturers

Hot Water Guys are trained and authorized to install tankless water heaters from the industry's leading manufacturers. We only recommend units that meet our strict standards for reliability, efficiency, and long-term performance in Houston's climate.

## Rinnai

The #1 Selling Tankless Brand in North America



- ✓ Up to 0.98 UEF (Uniform Energy Factor)
- ✓ ThermaCirc360 recirculation technology
- ✓ Wi-Fi enabled monitoring & control
- ✓ Up to 11 GPM for whole-home coverage
- ✓ 15-year heat exchanger warranty

## Navien

Advanced Condensing Technology Leader



- ✓ Up to 0.96 UEF — industry-leading efficiency
- ✓ Built-in recirculation pump (NPE-A2 series)
- ✓ ComfortFlow technology eliminates cold water sandwich
- ✓ Ultra-compact design for tight installations
- ✓ 15-year heat exchanger warranty

## Rheem

Trusted American Innovation Since 1925



- ✓ Up to 0.94 UEF rating
- ✓ Built-in leak detection & auto shutoff
- ✓ EcoNet smart connectivity
- ✓ Exclusive self-cleaning technology
- ✓ 12-year heat exchanger warranty

# Our Installation Process

Chapter 06 — From Consultation to Completion in 4 Simple Steps

At Hot Water Guys, we have refined our installation process to ensure a smooth, professional experience from start to finish. Every installation is performed by our trained and authorized technicians using genuine manufacturer parts and equipment.

01

## Home Usage & Demand Consultation

30-45 Minutes

We start by understanding your household's hot water needs. How many bathrooms? How many people? Do you run multiple fixtures at once? We assess your current system, gas line capacity, and electrical setup. We also evaluate your home's venting options and the best placement for your new unit.

02

## Precision System Sizing & Quoting

Same Day Quote

Based on your consultation, we calculate the exact GPM requirements and recommend the ideal unit for your home. You receive a transparent, itemized quote with no hidden fees — including the unit, installation labor, any required gas line upgrades, venting materials, and permits.

03

## Expert Professional Installation

4-8 Hours Typical

Our factory-trained technicians handle every aspect of the installation: removing your old tank, mounting the new unit, connecting gas and water lines, installing proper venting, and ensuring all work meets Houston building codes. Most installations are completed in a single day.

04

## System Walkthrough & Performance Check

30 Minutes

Before we leave, we walk you through every aspect of your new system: how to adjust the temperature, what the error codes mean, when to schedule maintenance, and how to use any smart features. We verify hot water delivery at every fixture and ensure the system is operating at peak efficiency.

### Pricing Starts at \$4,200

Includes unit, professional installation, permits, and our satisfaction guarantee. Financing options available. Call (832) 673-0909 for your free phone estimate.

# Maintenance & Care

Chapter 07 — Protecting Your Investment for 15-20+ Years

Houston's water has a moderate to high mineral content, which can cause scale buildup inside your tankless water heater's heat exchanger over time. Regular maintenance is the single most important thing you can do to ensure your system runs efficiently and lasts for decades.

## Recommended Maintenance Schedule

Every 6 Months

### Descaling / Vinegar Flush

Flush the heat exchanger with food-grade white vinegar using a submersible pump and two hoses connected to the service valves. This dissolves mineral deposits and maintains peak heat transfer efficiency.

Annually

### Full System Inspection

A trained technician inspects the burner assembly, checks gas pressure, cleans the intake air filter, inspects the condensate drain line, tests safety sensors, and verifies ignition and combustion efficiency.

Every 2-3 Years

### Inlet Water Filter Replacement

The inline water filter that protects the heat exchanger should be inspected every flush and replaced when flow appears restricted or the mesh shows buildup.

As Needed

### Error Code Diagnosis

Modern tankless units display error codes for common issues. Our technicians can diagnose and resolve error codes quickly using manufacturer-specific tools.

## The Descaling Process — Visual Overview

1

Close  
Shut-Off  
Valves

2

Connect  
Hoses to  
Service  
Valves

3

Place  
Pump in  
Vinegar  
Bucket

4

Circulate  
for 45-60  
Minutes

5

Flush  
with Clean  
Water

6

Reopen  
Valves &  
Test

# Cost, Savings & ROI

## Chapter 08 — Understanding Your Investment and Long-Term Returns

While a tankless water heater has a higher upfront cost than a traditional tank, the long-term savings and extended lifespan make it one of the best investments you can make in your Houston home. Here is a realistic breakdown of the numbers.

### Cost Comparison Over 20 Years

	Traditional Tank	Tankless
<b>Initial Cost (installed)</b>	\$1,200 - \$2,000	\$4,200 - \$6,500
<b>Annual Energy Cost</b>	~\$600	~\$350
<b>Average Lifespan</b>	8-12 years	15-20+ years
<b>Replacements in 20 years</b>	2 units needed	1 unit
<b>Total Cost (unit + energy)</b>	\$15,400 - \$18,000	\$11,200 - \$13,500
<b>Total 20-Year Savings</b>	—	<b>\$3,000 - \$5,500</b>

### When Does Tankless Pay For Itself?



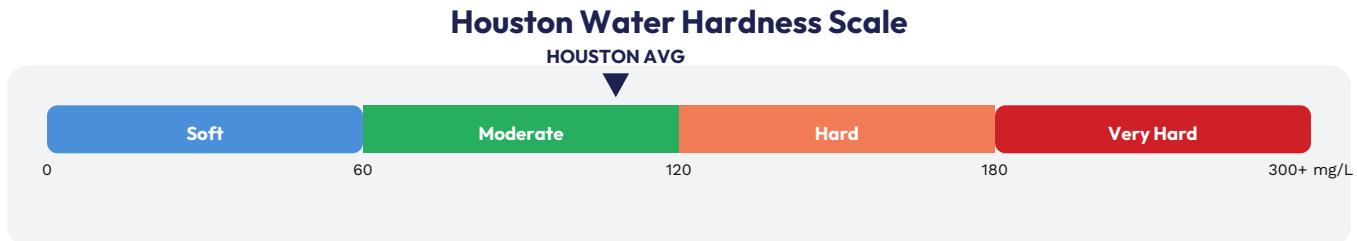
### Additional Ways to Save

- ✓ Federal tax credits may be available for high-efficiency condensing units (check current IRS guidelines)
- ✓ Many Houston energy providers offer rebates for energy-efficient water heater upgrades
- ✓ Reduced risk of water damage can lead to lower homeowner's insurance premiums
- ✓ Increased home resale value — tankless is a premium feature sought by buyers

# Houston Water Considerations

## Chapter 09 — Hard Water, Mineral Content & Local Solutions

Houston's water supply comes from a combination of surface water (Lake Livingston, Lake Conroe, and Lake Houston) and groundwater sources. The mineral content varies by area, but most Houston homes have moderately hard water that can affect tankless water heater performance over time if not properly addressed.



### How Hard Water Affects Your Tankless Unit

#### Scale Buildup in Heat Exchanger

Calcium and magnesium deposits accumulate on the heat exchanger surfaces, reducing heat transfer efficiency. This forces the unit to work harder, consuming more gas and reducing its lifespan. Regular descaling (every 6 months in Houston) prevents this.

#### Reduced Flow Rate

As scale builds up inside the narrow passages of the heat exchanger, water flow becomes restricted. You may notice decreased water pressure or the unit struggling to maintain temperature during high-demand periods.

#### Error Codes & Shutdowns

Severe scale buildup can trigger safety error codes, causing the unit to shut down. Common codes related to scale include overheating sensors and flow restriction alerts.

### Our Recommended Solutions

- ① Bi-Annual Descaling Service — Hot Water Guys offers maintenance plans starting at \$149/service that include a full vinegar flush, filter inspection, and system performance check.
- ② Whole-Home Water Softener — For homes with very hard water (above 150 mg/L), installing a water softener upstream of the tankless unit can dramatically extend the time between required descaling services.
- ③ Inline Scale Prevention — Devices like the Scale Stick or similar inline filters can be installed on the cold water inlet to reduce scale formation without the complexity of a full water softener system.



## Ready to Make the Switch?

Get your free, no-obligation phone estimate today.

**Call (832) 673-0909**

### How to Reach Us

#### Phone

**(832) 673-0909**

Available 7 days a week

#### Website

**hotwaterguys.com**

Request a quote online 24/7

#### Service Areas

**Greater Houston**

Katy, Cypress, Spring & more

### Why Houston Homeowners Choose Hot Water Guys

- ✓ Factory-authorized by Rinnai, Navien, and Rheem
- ✓ Thousands of 5-star reviews from neighbors
- ✓ Licensed, insured, and fully bonded
- ✓ Transparent pricing — no hidden fees, ever
- ✓ Same-day phone estimates available
- ✓ Financing options available

**Never Have a Cold Shower Again.**

Hot Water Guys — Houston's #1 Tankless Water Heater Specialists