

HOUSEHOLD PLUMBING 101:

# A New Homeowner's Guide



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# Welcome to Your New Home

Congratulations on your new home! Whether you're settling into a historic bungalow in Austin, a new build in Temple, a condo in DFW, or a ranch-style home in San Antonio, one thing remains true: understanding your plumbing system is essential. In Central Texas, unique soil conditions, frequent droughts, and temperature swings can put additional stress on your plumbing.

This guide was created to help you navigate household plumbing with confidence, avoid costly emergencies, and protect your investment for years to come.

# What You'll Find in This Guide

This comprehensive guide is designed to help new homeowners in Texas confidently navigate their home's plumbing system. Here's an overview of what each section covers:



## 01 **OVERVIEW OF A RESIDENTIAL PLUMBING SYSTEM**

- The difference between supply and drainage systems
- Key components and how they work together

## 02 **WARNING SIGNS TO WATCH FOR**

- How to spot leaks, pressure issues, clogs, odors, and more before they become disasters

## 03 **HOW TO FIND AND SHUT OFF YOUR MAIN WATER VALVE**

- Step-by-step instructions on locating and operating both curb-side and indoor shut-offs

## 04 **WATER PRESSURE BASICS & HOW TO CHECK IT**

- Ideal PSI levels, how to test pressure, and signs your system may be under- or over-pressurized

## 05 **WATER HEATER MAINTENANCE: TRADITIONAL & TANKLESS**

- Specific care tips for both models
- Signs of trouble and how to extend system lifespan



- 06 **MAINTAINING HEALTHY DRAINS**
  - Best practices and what to avoid to prevent blockages
  - When to DIY and when to call a pro
- 07 **PIPE MATERIAL PITFALLS: PEX & OTHER COMMON PROBLEMS**
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Use this guide to take charge of your home's plumbing and prevent costly surprises. Whether you're planning preventative maintenance or dealing with an urgent issue, the information here will help you make smart, confident decisions.



# Overview of a Residential Plumbing System

**Your home's plumbing system is made up of two main subsystems:**

- 1. Water Supply System** – Brings fresh water into your home. This is a pressurized system connected to a municipal water supply or a private well. It includes cold and hot water lines, a water heater, and pressure regulation.
- 2. Drain-Waste-Vent (DWV) System** – Removes wastewater from your home. It consists of drain pipes, vent pipes, and sewer lines that safely direct used water to the city sewer or a septic tank.



# Key Components

- **Main Water Line:** Typically enters the home near the street or garage.
- **Shut-Off Valve:** Allows you to stop the water flow in emergencies.
- **Water Heater:** Heats water for showers, sinks, and appliances.
- **Fixtures:** Faucets, toilets, showers, dishwashers, and washing machines.
- **Vents:** Prevent vacuum locks and allow sewer gases to escape safely.

Visualize your system like a circulatory system—bringing in clean water and safely disposing of the waste.

Understanding how these systems and components work together is key to spotting problems before they become emergencies. Just like you would monitor your car for unusual noises or dashboard lights, your plumbing system gives off early signals when something isn't right. Paying attention to these signs helps you protect your home from hidden leaks, water damage, and costly repairs. Below are some of the most common warning signs that every homeowner should watch for.



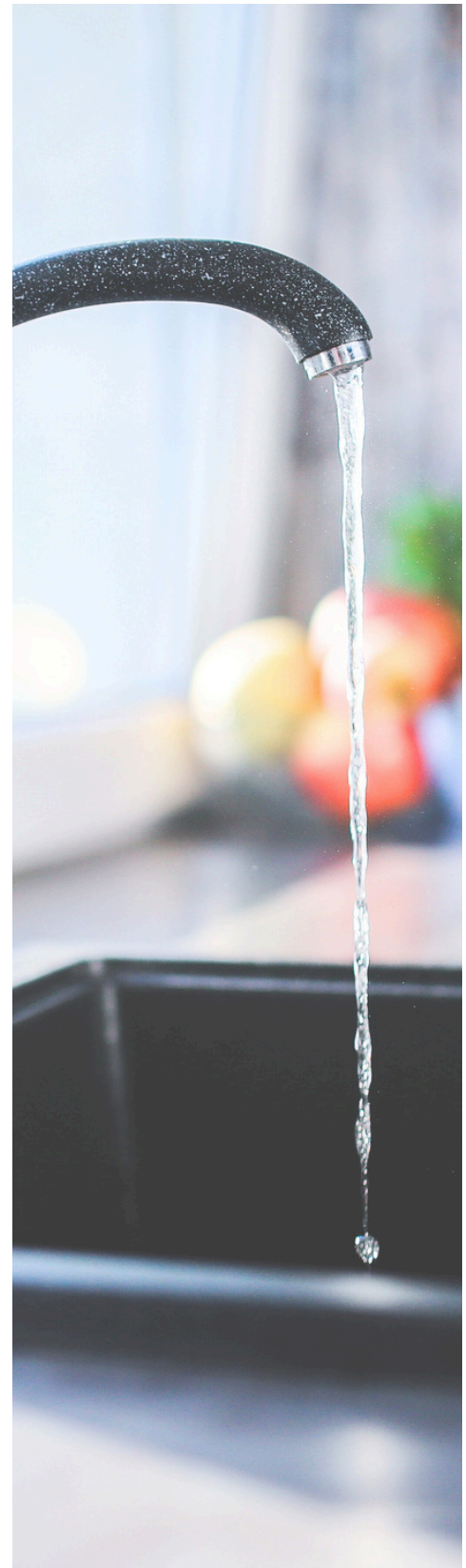
# Warning Signs to Watch For

## 1 Dripping or Discolored Ceilings/Walls

These are often early indicators of a leak within your walls or ceiling, possibly from a pipe, shower, or appliance above. Yellow or brown stains may indicate long-term moisture, while bubbling paint or sagging drywall suggests active leaks. Even a slow drip can promote mold growth or structural weakening over time.

## 2 Low Pressure in One Fixture

If just one faucet or showerhead has weak pressure, it may be due to a clogged aerator, mineral buildup, or a local valve issue. Cleaning or replacing the aerator usually solves this, but if not, there could be a hidden blockage in the supply line to that fixture.







### 3 **Low Pressure Throughout the Home**

A system-wide pressure drop can signal a failing pressure regulator, partially closed shut-off valve, or even a main line leak. If your neighbors aren't experiencing the same issue, it's likely within your own system and worth calling a professional.

### 4 **Frequent Drain Clogs or Backups**

Regular clogs in toilets, sinks, or tubs could point to larger blockages in the main sewer line. Roots, grease buildup, or collapsed pipes underground are common culprits in Texas. Multiple slow drains at once, especially in lower-level fixtures, are a red flag.

### 5 **Sewage Odors**

A foul, rotten-egg smell from drains or around your property usually indicates a problem with the venting system, a dried-out P-trap, or a crack in the sewer line. Vent stacks on the roof can get blocked by leaves or debris, while dry weather can evaporate water from traps in unused fixtures.

## 6 Spinning Water Meter When Nothing Is On

If all fixtures are off but your water meter continues spinning, you may have a hidden leak underground or within the walls. These "silent leaks" can waste hundreds of gallons per day and may go unnoticed until water bills spike or damage appears.

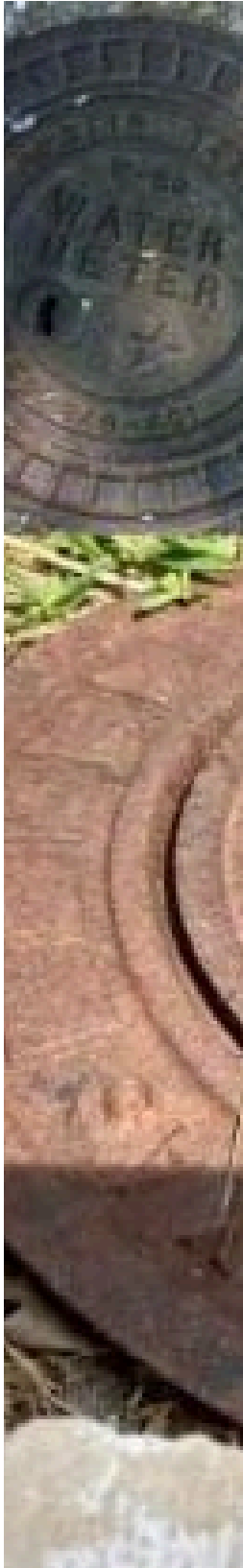
## 7 Garbage Disposal Not Draining

If your disposal hums but doesn't spin, the impeller may be jammed. If water pools and doesn't drain, it could be a clog deeper in the kitchen drain line. Be cautious—never put your hand inside the disposal, even when it's off.

### Other Subtle Signs

- **Wobbly toilets** may signal a broken seal or rotting subfloor.
- **Moldy or musty smells** in cabinets or closets often come from unnoticed drips.
- **Cracks in the foundation** can result from prolonged leaks under the slab.





# How to Find and Shut Off Your Main Water Valve

When these warning signs appear, quick action can make all the difference. Even a small leak or burst pipe can cause significant damage in minutes if water continues to flow unchecked. That's why every homeowner should know exactly where their main shut-off valve is and how to use it.

## WHERE TO FIND IT:

There are typically two main shut-off points: one outside and one inside.

- ✓ **Curb Stop / Meter Box:** Usually located in your front yard near the street or sidewalk. Look for a rectangular or circular metal lid labeled "WATER."
- ✓ **Main Shut-Off Valve (Home Side):** This is your primary shutoff and usually easier to access. Common locations include:
  - Inside the garage
  - In a utility room, laundry room, or basement
  - Near the water heater
  - In a crawl space or behind an access panel in a closet





It often looks like a round wheel or a lever handle.

### HOW TO SHUT IT OFF:

- ✓ Turn the Wheel Valve: Rotate it clockwise until it stops.
- ✓ Turn the Lever Valve: If you have a ball valve with a lever, turn it 90 degrees.
- ✓ Verify It's Off: Open a faucet inside the house. If water stops running within a few seconds, you've successfully shut it off.

### Pro Tip:

- Clearly label your shut-off valve with a waterproof tag.
- Make sure every adult (and older kids) in your household knows where it is and how to use it.
- Practice turning it off once or twice a year to ensure it's not stuck or corroded.

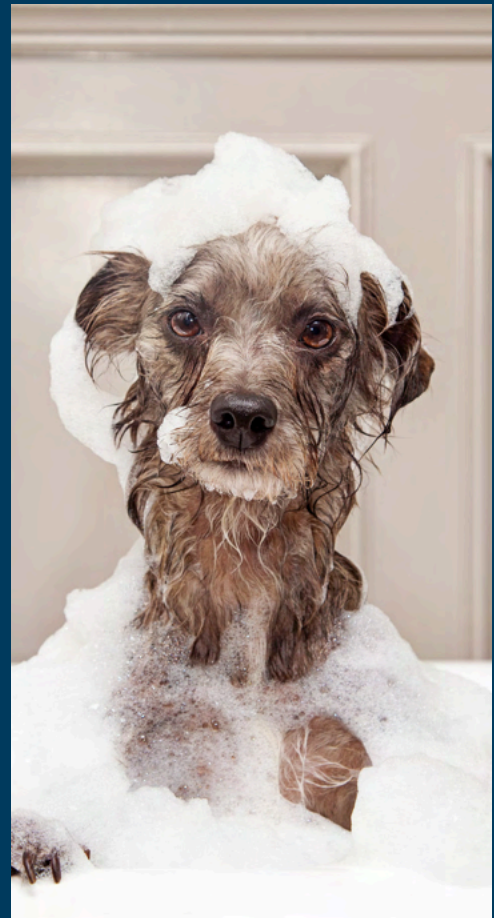
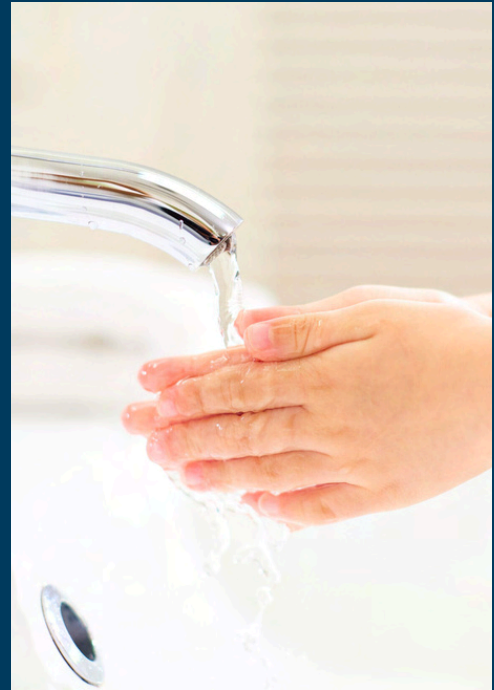
**Bonus Tip for Central Texas:** In many local homes, especially slab-on-grade foundations, the shut-off valve may be behind a small panel in the garage or utility room wall. If you can't locate it, your local plumber can help identify and label it for you.

# Water Pressure Basics & How to Check It

Water pressure plays a critical role in the function and longevity of your plumbing system. It determines how forcefully water moves through your pipes to faucets, showers, toilets, and appliances. Ideal residential water pressure ranges from **50 to 60 PSI (pounds per square inch)**. Anything below 40 PSI may feel weak and ineffective, while anything above 70 PSI can strain or damage your plumbing system.

## Why Pressure Matters:

- **Low pressure** affects everything from your morning shower to how well your dishwasher cleans.
- **High pressure** can silently wear down pipe joints, rupture washing machine hoses, and even void warranties on plumbing appliances.



## How to Check Your Water Pressure:



1

**Buy a Pressure Gauge:** Available for around \$10–\$15 at most hardware stores. Look for one with a rubber gasket for a tight seal.

2

**Find a Hose Bib:** Choose an outdoor spigot closest to where the main water line enters the home. Make sure no water is running inside.

3

**Attach the Gauge:** Screw it tightly onto the spigot and open the valve fully.

4

**Read the Gauge:** Wait a few seconds, then check the dial. A reading of **50–60 PSI** is ideal. If you see above 70 PSI, your system may be over-pressurized.

5

**Test with Fixtures On:** You can also run indoor fixtures (like a shower) while checking to see how pressure fluctuates during demand.





## Signs of Poor Water Pressure:

- **Low Flow at Multiple Fixtures:** Suggests an issue with the pressure regulator, main line, or a municipal supply issue.
- **Low Flow at One Fixture:** Likely caused by a clogged aerator, sediment buildup, or a partially closed valve.
- **Loud Banging Pipes (Water Hammer):** Occurs when water flow suddenly stops and causes a shockwave in high-pressure systems. Water hammer arrestors or PRV adjustments may be needed.
- **Leaky Valves or Appliances:** Chronically high pressure can degrade internal components over time, leading to premature leaks or failure.



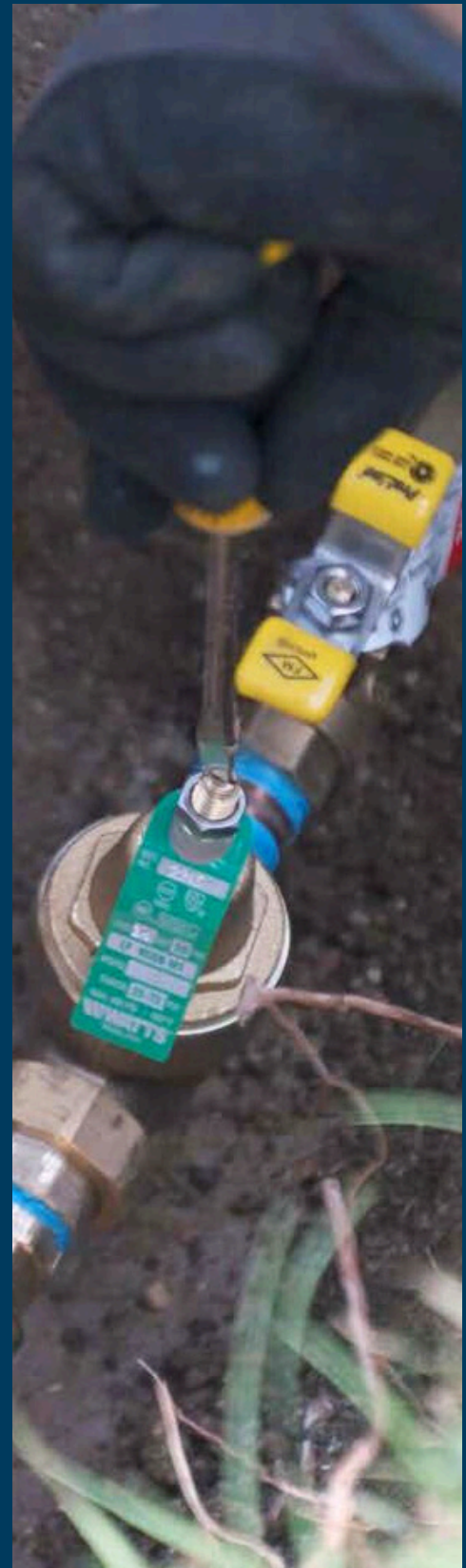
# What Causes Pressure Problems in Texas?

- Municipal water supply fluctuations
- Aging or undersized pressure regulators
- Private wells with uncalibrated pumps
- Thermal expansion from water heaters

**Pro Tip:** If you don't already have one, ask your plumber to install a **Pressure Regulating Valve (PRV)** where your main water line enters the house. This device can be adjusted to ensure pressure stays in a safe, consistent range.

Also consider adding a thermal expansion tank to your water heater to relieve excess pressure created when water heats and expands in a closed plumbing system.

Consistent pressure equals longer-lasting appliances, fewer leaks, and a more comfortable home.



# Water Heater Maintenance: Traditional & Tankless

Your water heater is one of the most important appliances in your home, providing hot water for showers, laundry, dishes, and more. Whether you have a traditional tank model or a modern tankless system, regular maintenance is key to ensuring efficient operation, energy savings, and long-term performance.

In Texas, hard water can accelerate sediment buildup and shorten the lifespan of your water heater if left unchecked. Here's how to keep your system running smoothly:





# Traditional Tank Water Heaters:

These models store and heat a set volume of water.

## **Flush the Tank Annually**

**Over time, minerals and sediment from hard water settle at the bottom of the tank. This buildup reduces heating efficiency, increases energy bills, and can cause rumbling or popping noises. Draining and flushing the tank once a year removes this buildup and extends the unit's lifespan.**

## **Test the Pressure Relief Valve**

**This is where you can provide  
This safety valve is designed to release excess pressure and prevent explosions. Test it yearly by lifting the lever and allowing some water to discharge. If it doesn't release water or continues leaking after the test, it needs to be replaced.**

## **Check the Anode Rod Every 2–3 Years**

**This rod attracts corrosive minerals that would otherwise attack the tank lining. If the rod is severely corroded or less than 1/2 inch thick, it should be replaced to prevent rust from forming inside the tank.**

## **Inspect for Leaks and Rust**

**Check around the base of the unit for signs of water pooling or rust stains. These could indicate tank deterioration or a faulty valve.**

# Tankless Water Heaters:

Tankless systems heat water on demand and are known for their energy efficiency and long lifespan. However, they are still susceptible to scale buildup and maintenance neglect.

## **Descale Annually**

**Hard water minerals (like calcium and magnesium) can coat the internal heat exchanger and reduce performance. Use a descaling kit with a manufacturer-recommended solution to flush the system.**

## **Clean the Inlet Filter**

**Sediment and debris can collect at the water inlet, restricting flow and reducing efficiency. Check and clean the filter every 6–12 months.**

## **Ensure Proper Ventilation**

**Gas-powered models require unobstructed vents to release exhaust safely. Check for blockages, corrosion, or pest activity.**

## **Inspect for Error Codes**

**Modern units often display digital codes for maintenance issues. Refer to your manual or call a professional if any appear.**

# Signs Your Water Heater Needs Service:

- Metallic or Rusty Water Smell/Taste: Could indicate corrosion inside the tank.
- Water Takes Too Long to Heat: May be due to sediment buildup or failing heating elements.
- Popping or Rumbling Noises: A classic sign of sediment at the bottom of a tank heater.
- Fluctuating Water Temperatures: Thermostat issues or scale on heating components.
- Water Around the Base: Could mean a leak or faulty connection—needs immediate attention.

A well-maintained water heater not only saves you money on energy and repairs but also ensures your home stays comfortable and efficient year-round.





# Maintaining Healthy Drains

Clogs and backups are common but preventable. If you notice slow draining sinks or bubbling toilets, call for a camera inspection.

## Preventive Tips:

- Use mesh screens over drains
- Avoid pouring grease or food scraps down kitchen sinks.
- Only flush toilet paper
- Monthly enzyme-based cleaners help maintain flow without harsh chemicals

## Avoid:

- Wipes labeled "flushable"
- Hair accumulation in shower/tub drains
- Pouring boiling water into PVC drains



# Pipe Material Pitfalls: PEX & Other Common Problems



## PEX

Flexible and common in newer homes, but vulnerable to UV exposure and rodents.

## Kitec

Recalled due to premature failure.



## Copper

Long-lasting but susceptible to pinhole leaks in aggressive water conditions.

# Pipe Material Pitfalls: PEX & Other Common Problems



## Cast Iron

Common in older homes; rusts internally over time.

## PVC/ABS

Often used in drains, not meant for hot water.



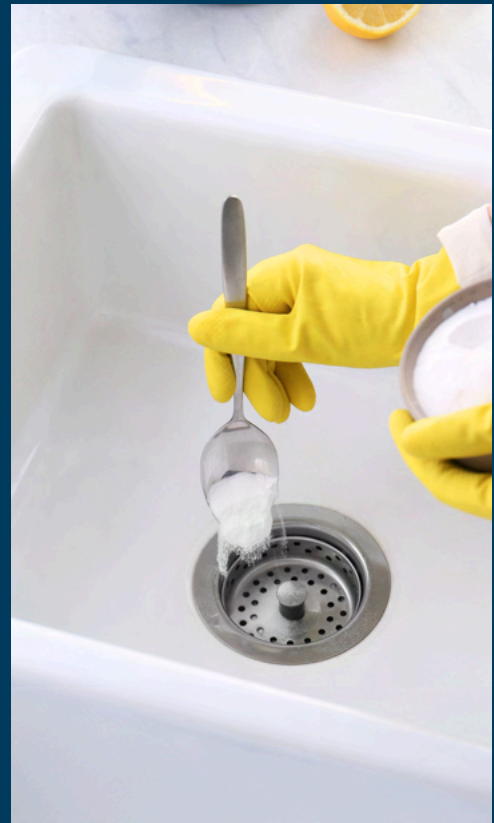
## Bonus Tip:

If your home has Kitec or aging cast iron lines, consider repiping.

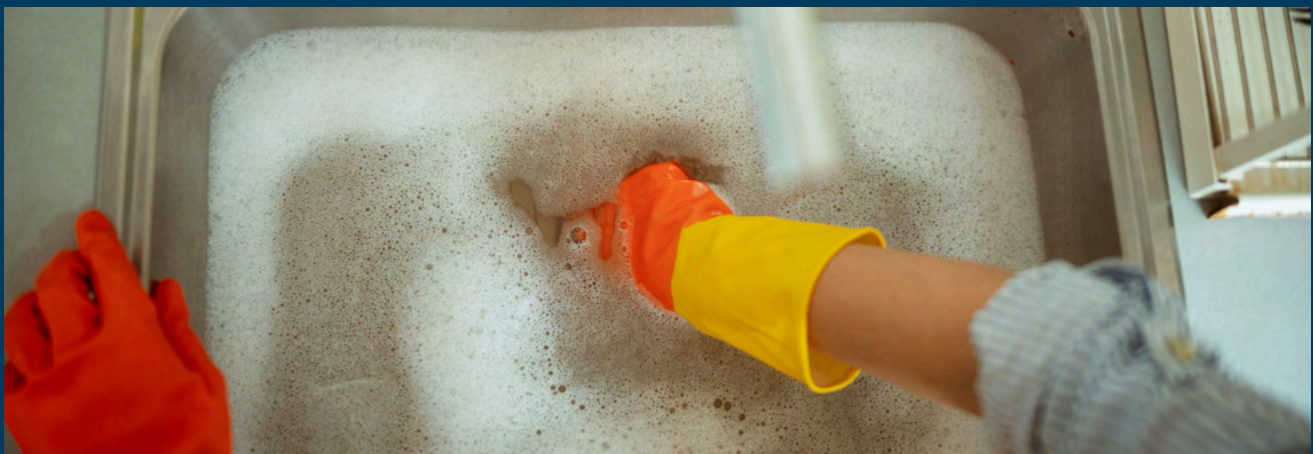


# Chemical Cleaners & DIY Cautions

It's tempting to reach for a bottle of chemical drain cleaner when your sink slows down or your shower won't drain—but resist the urge. While these products offer a quick fix, they can do far more harm than good in the long run. Understanding when it's safe to DIY and when to call a pro can help protect your plumbing and avoid expensive mistakes.



**When in doubt, consult a licensed plumber.** A quick phone call or inspection can often prevent a costly emergency later. Relying on professionals for complex issues doesn't just save time—it protects your home, health, and investment.



## Risks of Chemical Cleaners:

- **Corrodes Pipes Over Time:** Most chemical drain cleaners contain sodium hydroxide or sulfuric acid, which generate heat to dissolve clogs. While effective in the short term, they eat away at metal and even some plastic pipes over time, especially in older homes with galvanized steel or copper lines.
- **Can Damage Septic Systems:** Harsh chemicals can kill the beneficial bacteria in septic tanks, disrupting the breakdown of waste and leading to system failure or overflow.
- **Dangerous Chemical Reactions:** Mixing drain cleaners—either accidentally or with other household chemicals—can cause toxic fumes or violent reactions.
- **Masking Bigger Problems:** Frequent clogs may be a symptom of a larger issue (like root intrusion or a collapsed pipe) that chemical solutions only delay addressing.



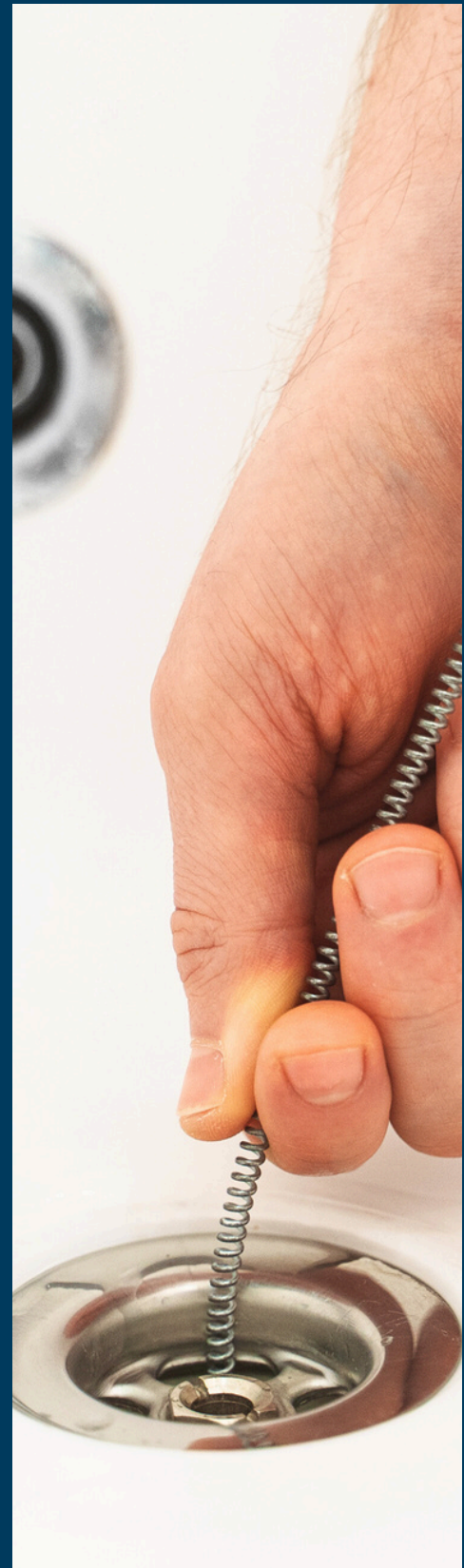
### Better Alternatives:

- Manual tools like plungers or drain snakes are often more effective for physical blockages without risking pipe damage.
- Regular maintenance like screen filters, avoiding grease, and annual plumbing inspections.

## DIY Jobs That Are Safe:

**For the handy homeowner, certain tasks are safe and budget-friendly:**

- **Replacing Faucet Aerators:** Simple fix for low flow or sediment issues.
- **Using a Plunger or Drain Snake:** Effective on most minor clogs in sinks, tubs, or toilets.
- **Replacing a Toilet Flapper:** Common cause of running toilets and easy to swap.
- **Unclogging Shower Drains:** Remove visible hair and debris from the drain cover and use a Zip-It tool if needed.
- **Natural Drain Cleaning Solutions:** Pour 1 cup of baking soda into a clogged drain, followed by 1 cup of white vinegar to create a fizzing reaction that breaks down minor clogs.







## Jobs Best Left to the Pros:

**Some projects may look simple but can have serious safety, legal, or property risks if done incorrectly:**

- **Gas Line Repairs or Installations:**  
Mistakes can lead to fire, explosion, or carbon monoxide poisoning. Always require a licensed professional.
- **Sewer Line Replacement or Cleaning:**  
Misdiagnosis of sewer issues can lead to unnecessary digging or incomplete repairs. Professionals use camera scopes to pinpoint problems.
- **Water Heater Installation or Repairs:**  
Incorrect installation can result in scalding, gas leaks, flooding, or even explosions due to pressure buildup.
- **Slab Leak Detection:** Requires specialized equipment and expertise to detect leaks under your foundation without invasive demolition.

# Seasonal Plumbing Tips for Texas

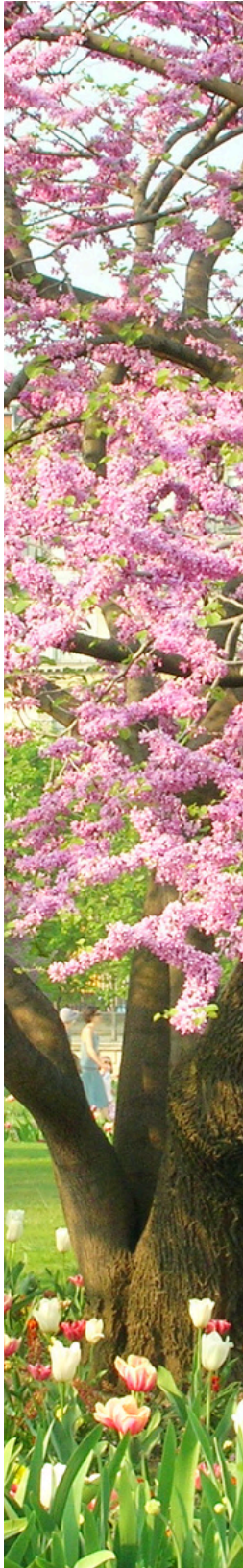


While Texas generally enjoys a warmer climate, seasonal temperature swings, droughts, and sudden cold snaps can all impact your home's plumbing system. Staying on top of seasonal maintenance helps prevent unexpected repairs and ensures your system runs smoothly all year long.

## ✓ **WINTER:**

Though rare, freezing temperatures in Central Texas can arrive suddenly and do serious damage.

- **Insulate Outdoor Faucets and Pipes:** Use faucet covers and foam pipe insulation on any exposed piping in garages, crawl spaces, or outside walls.
- **Let Indoor Faucets Drip:** A small trickle of water helps prevent pipes from freezing by relieving pressure inside the system.
- **Open Cabinet Doors:** Especially under sinks located on exterior walls, this allows warm air to circulate around pipes.
- **Disconnect and Drain Hoses:** Water trapped in hoses can freeze and back up into the faucet and pipes.
- **Know Your Shut-Off Valve Location:** In case a pipe does burst, shutting off your water quickly is essential.



## ✓ **SPRING:**

This is the perfect time to inspect your plumbing after winter and prepare for increased water use.

- **Test and Check Irrigation Systems:** Look for cracked sprinkler heads, leaks in drip lines, and improper water coverage.
- **Inspect Hose Bibs and Outdoor Faucets:** Freeze damage may not be apparent until you turn them on and spot leaks or water spraying from the wall.
- **Flush Your Water Heater:** Sediment buildup is common in Texas due to hard water. Flushing helps maintain heating efficiency.
- **Check for Shifting Soil or Foundation Movement:** These can damage underground plumbing lines and lead to slow leaks.

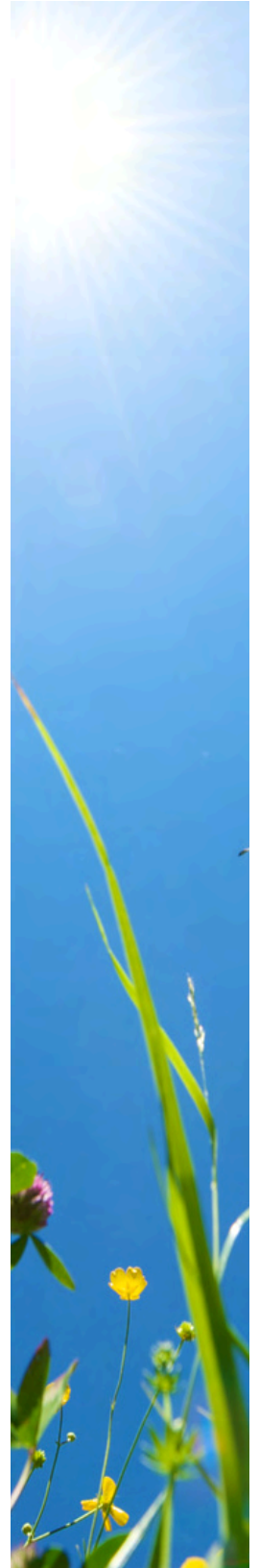




## ✓ SUMMER

High temperatures and increased water usage can stress your plumbing system.

- **Watch for Drought Restrictions:** Many municipalities issue watering schedules and limit outdoor use. Overwatering during restrictions can also create fines.
- **Monitor Your Water Bill:** A sudden spike may indicate a hidden irrigation leak or slab leak.
- **Service Your Water Softener (if installed):** Refill salt levels and ensure it's functioning properly to reduce mineral buildup in pipes.
- **Be Aware of Tree Roots:** Trees in search of water may invade your underground sewer lines.
- **Check for Pool and Outdoor Shower Leaks:** These are often overlooked but can waste hundreds of gallons weekly.

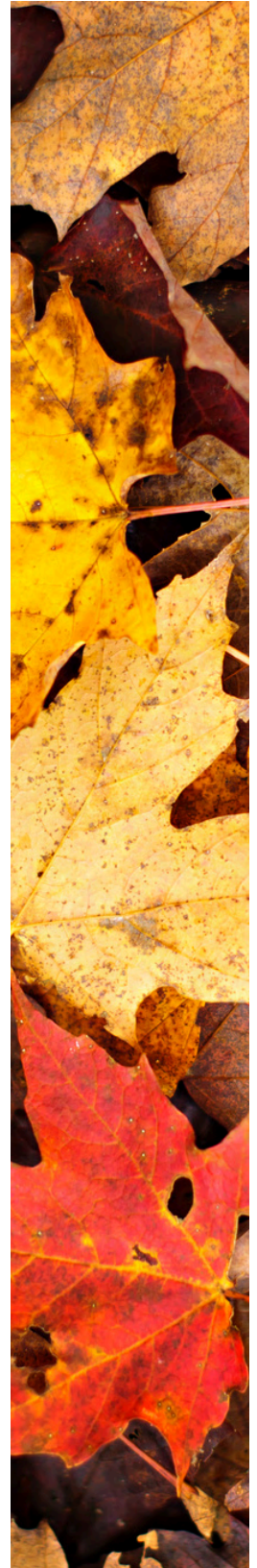


## ✓ FALL

Preparing for cooler weather and holiday gatherings is essential.

- **Clean Out Gutters and Downspouts:** Clogged gutters can back up water and lead to drainage problems near the foundation.
- **Inspect Sump Pumps or Outdoor Drains:** Make sure they're clear of debris and functioning properly before heavy rains.
- **Schedule a Sewer Camera Inspection:** Ideal before guests arrive for the holidays. This can catch blockages or root intrusions before they cause backups.
- **Test Guest Bathroom Fixtures:** Make sure lesser-used bathrooms are functional and odor-free.
- **Drain and Store Garden Hoses:** Leaving them out year-round increases wear and can lead to deterioration or freeze damage later.

Each season in Texas brings unique challenges. A proactive approach can prevent emergencies, lower your water bills, and extend the life of your plumbing system.



# Free Plumbing Checklist



## Monthly:

- Check under sinks for moisture
- Clean shower drains
- Test toilet flush efficiency

## Quarterly:

- Check water heater temperature (set to 120°F)
- Inspect outdoor hose bibs

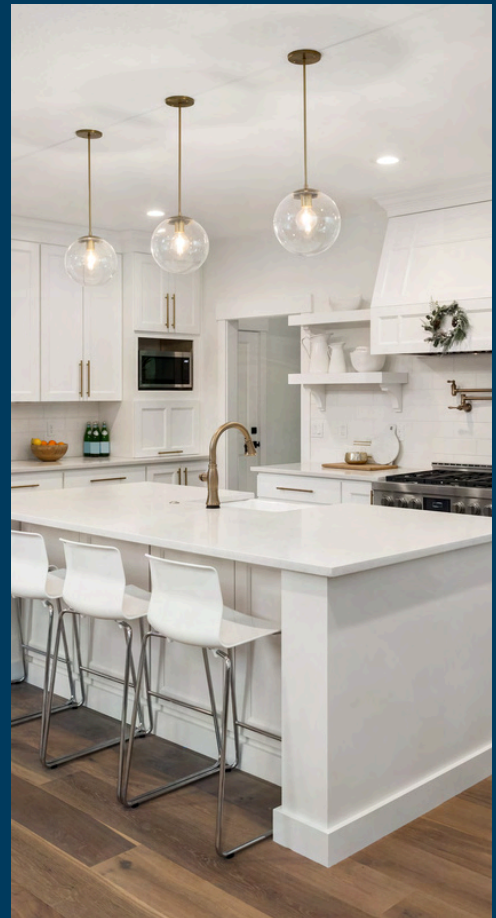
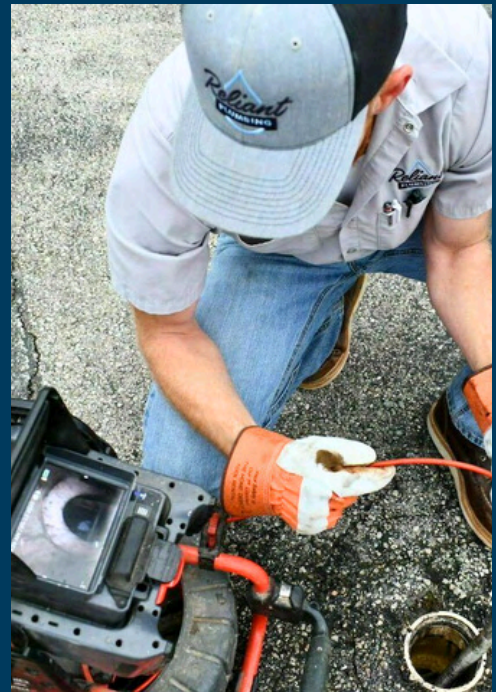
## Annually:

- Flush water heater
- Schedule professional inspection
- Test pressure relief valves
- Clean sediment filters (if applicable)

# Why You Need a Professional Plumbing Inspection

Think of a professional plumbing inspection as a wellness check-up for your home. While everything might seem fine on the surface, hidden issues beneath the floors, behind the walls, or underground can cause serious damage if left undetected. A routine inspection can catch minor concerns before they escalate into full-blown emergencies that disrupt your life and drain your finances.

In Texas, where hard water, soil shifting, and aging infrastructure are common, preventative plumbing care is especially important. Even new homes can develop plumbing problems due to installation flaws, material defects, or climate-related wear and tear.





# What's Included in a Professional Plumbing Inspection:



# 1

**Sewer Line Camera Inspection:** A high-definition camera is snaked through your drain and sewer lines to detect blockages, cracks, root intrusion, collapsed pipes, or improper slope. This allows plumbers to pinpoint issues without unnecessary digging or guesswork.

# 2

**Water Pressure Test:** Measures the PSI (pounds per square inch) to ensure your water pressure isn't too low (leading to poor fixture performance) or too high (which can damage pipes and appliances).

# 3

**Fixture & Exposed Plumbing Review:** Faucets, toilets, showers, hose bibs, and visible pipes are checked for leaks, corrosion, or poor water flow. Plumbers also inspect under sinks, in crawl spaces, and around the water meter.



4

**Water Heater Safety &**

**Functionality:** Whether you have a tank or tankless model, the inspection includes checking temperature settings, pressure relief valves, signs of corrosion or leaks, and sediment buildup. For tankless systems, descaling may be recommended.

5

**Slab Leak Screening:** Especially important for homes with slab foundations, this involves checking for hidden leaks beneath the home that could erode soil, shift foundations, or create mold issues.

6

**Valve Location & Accessibility**

**Check:** Plumbers ensure your main shut-off valve and secondary shut-offs are functional, labeled, and accessible in an emergency.

7

**Evaluation of Pipe Materials:**

Identifying whether your home uses copper, PEX, galvanized, or other materials and assessing their condition and lifespan.





# How to Find a Local, Trustworthy Plumber



## Here's what to look for in a reputable plumbing company:

- Licensed and insured in the state of Texas
- Transparent, up-front pricing
- Emergency availability
- Great reviews on Google, Yelp, and Nextdoor
- Uniformed technicians with marked vehicles

## Avoid plumbers who:

- Can't show a license
- Offer vague pricing or cash-only quotes
- Have poor or no online presence

**Bonus Tip:** Ask your neighbors or HOA who they trust.

# Get in Touch with Us

Reliant Plumbing is Texas' trusted plumbing partner. Serving Austin, San Antonio, Waco, Temple, Dallas, and surrounding areas, our licensed professionals are known for transparency, professionalism, and 5-star service.

Want peace of mind with your plumbing system? Let Reliant Plumbing provide a free in-home consultation or inspection. Call us today or schedule online:

[reliantplumbing.com/contact-us](https://reliantplumbing.com/contact-us)

- Austin: (512) 222-6029
- San Antonio: (210) 468-8020
- Waco: (254) 481-0840
- Temple: (254) 203-7660



We're here when you need us — even on weekends and holidays.

