



WHAT MOST HOMEOWNERS NEVER FIND OUT UNTIL IT'S TOO LATE

What You Don't Know About Expansion Tanks Could Cost You

05

HOW IT WORKS

- 1 Water heats & expands
~2% volume increase
- 2 PRV seals the system
Nowhere for pressure to go
- 3 Bladder compresses
Absorbs the pressure spike

EXPANSION TANK



WITHOUT A WORKING TANK

150 PSI+

Pressure a 40-gal heater spikes to with just a 16°F rise — Bradford White

2%

Volume water expands from 50°F to 120°F inside a sealed pipe

IRC 2024 §P2903.4 mandates expansion tanks on all closed plumbing systems

HARD FACTS — PROVEN & CODE-BACKED

5–10 Yrs

Expansion tank lifespan before bladder failure becomes likely

2%

Volume water expands from 50°F to 120°F — nowhere to go in a sealed system

150 PSI

Pressure a 40-gal heater can spike to with just a 16°F temp rise (Bradford White)

IRC §P2903

Federal code requiring expansion tanks on every closed plumbing system since 2024

CODE REQUIREMENT — NOT OPTIONAL

Under **IRC 2024 §P2903.4**, any home with a PRV, backflow preventer, or check valve on the supply line is legally a closed system. A listed thermal expansion tank is **code-required**. Missing one is not just risky — it is a code violation.

When your water heater fires, cold water at ~50°F heats to 120°F or more. That temperature change causes the water volume to increase by approximately **2%** — a small number that generates enormous pressure in a sealed pipe. In a closed system — created any time a PRV, backflow preventer, or check valve exists on your supply line — that pressure has nowhere to escape. Every heating cycle silently hammers your pipes, fittings, valves, and water heater tank.

WARNING SIGNS — DON'T IGNORE THESE

- ✘ **T&P relief valve dripping or weeping** — the valve is doing your expansion tank's job. This is not a faulty valve; it is a failed or missing tank.
- ✘ **Water surges when you first open a faucet** — built-up pressure releasing from an overpressurized system.
- ✘ **Metallic creaking near the water heater** during recovery cycles with all valves closed — tank walls flexing under pressure.
- ✘ **Faucets drip during heater recovery** when no water is in use — a textbook thermal expansion symptom.
- ✘ **Rust, corrosion, or moisture at the tank fittings** — the bladder has failed and the tank is waterlogged and non-functional.
- ✘ **Tank is 7+ years old** — even without visible symptoms, bladder integrity cannot be confirmed without a pressure test.

IF YOU DON'T REPLACE IT

T&P valve failure — forced to cycle constantly, it wears out and may not open in a real emergency

Premature water heater failure — chronic overpressure shortens tank lifespan and voids most manufacturer warranties

Supply line rupture — braided hoses under sinks are the first to fail under sustained pressure spikes

Code violation — IRC 2024 §P2903.4 mandates a listed expansion tank on every closed system

ASK YOUR TECHNICIAN ABOUT
EXPANSION TANK INSPECTION & REPLACEMENT

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