CALGARY PLUMBING PRO

Water Heaters

Tank and tankless water heaters: replacement, sizing, lifespan, gas versus electric, venting, expansion tanks, permits and costs in Calgary

4 Expert Answers from Plumbing IQ

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Table of Contents

1. Water heater thermostat setting for a Calgary family, how hot?
2. What is an anode rod and should Calgary homeowners replace it?
3. Does my Airdrie home need a permit for a new water heater?
4. Tank or tankless for a Calgary basement suite, which fits better?

Q1

Water heater thermostat setting for a Calgary family, how hot?

We do not publish a tank setting of our own: the water heater's manual gives the manufacturer's setting, and a plumber can set it for your household. The one Calgary figure we can give you is at the tap: at the final inspection for bathroom work, the City of Calgary checks that tub and shower water does not exceed 49°C.

Why the tap temperature matters

Hot water at the tap can scald, especially children and older adults. Where the tank has to run hotter than you want at the tap, a plumber can fit a tempering or mixing valve that blends in cold water so the delivered temperature stays lower.

Calgary's hard water adds a wrinkle. The City of Calgary reports hardness ranging from roughly 141 to 274 mg/L depending on which treatment plant serves your neighbourhood. Scale can settle at the bottom of a tank, which is why flushing it and having the anode rod checked are worth doing.

On a tankless unit, regular descaling of the heat exchanger matters for the same reason.

On the permit side, a straight thermostat adjustment needs no permit. If a plumber recommends adding a tempering valve where none exists, that is a change to the plumbing system and a City of Calgary plumbing permit would apply. The City issues homeowner plumbing permits to owners who live in the home and do the work themselves; a contractor takes out their own permit for work they perform.

Gas work is separate. Adjusting a gas water heater's thermostat dial is not gas work, but any change to the gas line, venting or the heater type requires a gas permit, and in Calgary that permit is for a certified gasfitter.

For a service call to set the temperature, flush the tank and inspect the anode rod, expect to pay a call-out fee in the range of $50 to $150 plus the plumber's hourly rate, typically $85 to $150 during regular hours in Calgary. Adding a tempering valve is a separate quoted item.

When you have two written quotes side by side, line up the tempering valve model and labour, the flushing and anode rod inspection, whether the permit is included if a valve is being added, and the warranty terms on both parts and labour.

Q2

What is an anode rod and should Calgary homeowners replace it?

An anode rod is a metal rod, usually magnesium or aluminium, that sits inside a tank water heater and corrodes slowly so the steel tank does not. It is often called a sacrificial rod because that is exactly what it does: it gives itself up to the minerals and oxygen in the water so the tank lining stays intact. When the rod is gone, the tank starts rusting from the inside, and that is usually what ends a water heater's life.

Why Calgary's water makes this matter more

Calgary's water is hard, running roughly 141 to 274 mg/L of calcium and magnesium depending on which treatment plant supplies your neighbourhood and the time of year. How fast a rod is used up depends on the water and how much hot water the house uses, so the only reliable answer is to look at it. Flushing sediment from the tank at the same time is worthwhile, since the calcium scale that settles at the bottom insulates the burner and shortens heater life further.

Having the rod checked every few years is a reasonable habit. If it is badly worn, heavily coated or snapped, it needs replacing. A plumber who checks and swaps it during a service call will charge the call-out fee plus labour, which in Calgary usually runs $85 to $150 an hour during business hours, with a service fee commonly in the $50 to $150 range on top.

Does replacing an anode rod need a permit in Calgary?

Swapping an anode rod is maintenance inside the tank and does not change the piping, so it is not the kind of work that needs a plumbing permit; if you are unsure, ask the City of Calgary. A straight like-for-like water heater replacement also needs no permit; a permit is required only when the gas line upstream of the shut-off valve changes, the venting changes, or the heater type changes.

Who should do the work?

Replacing an anode rod is a plumbing task, not a gas task, so a homeowner who owns and lives in the home can do it without a permit. The practical challenge is that the rod is often torqued in tight and may need a long socket and a breaker bar to break loose, and on some heaters it is hidden under the sheet-metal top or behind an insulation jacket. If the rod has never been changed and the heater is older, a plumber is worth calling: they can assess the tank's overall condition, check the pressure relief valve and discharge pipe, and tell you honestly whether the heater is worth maintaining or approaching the end of its useful life.

A plumber doing this work does not need to be a gasfitter; they are not touching the gas supply. Confirm they hold a valid Alberta trade certificate as a journeyperson plumber or are a registered apprentice working under one, and ask for a WCB-Alberta clearance letter before they start.

Before signing anything, ask the plumber: if the rod is seized and the tank is already several years old, will they recommend replacement instead, and what would that cost with the permit included?

Q3

Does my Airdrie home need a permit for a new water heater?

In Airdrie, yes, replacing a water heater requires a permit. The City of Airdrie lists plumbing and hot water tanks, and gas work, as work that needs a permit.

What the permit covers and who pulls it

Depending on the job, that can mean a plumbing permit, a gas permit or both, so ask the City of Airdrie which applies to your swap. A certified gasfitter handles any gas work; that is not optional in Alberta, where Gasfitter is a compulsory certification trade under the Skilled Trades and Apprenticeship Education Act. When you hire the work out, the plumber or gasfitter takes out the permits as part of the job.

If you own and live in the home, you may apply for a homeowner permit in Airdrie, but only for a home you occupy, not for any part of a rental property. One thing to know: since January 2026, a homeowner-led trade permit in Airdrie carries an additional $100 fee per trade.

Take out the permit before the work starts, and ask the City of Airdrie how to book the inspection.

Who does the work matters. Under Alberta's Skilled Trades and Apprenticeship Education Act, anyone doing gas or plumbing work for pay must be a certified journeyperson or a registered apprentice working under one. Before you hire, ask to see the contractor's trade certificate, confirm they hold an Alberta prepaid contracting licence if they are collecting any deposit before the job is finished, and ask for a WCB-Alberta clearance letter confirming their account is in good standing.

What a fair quote looks like. A written quote for a water heater replacement in Airdrie should spell out the unit being installed (type, size, model), all labour, both permits and inspections, removal and disposal of the old unit, and any venting or gas line changes needed. Typical installed costs for a standard 50-gallon gas tank run roughly $1,500 to $3,500 in the Calgary area; if the gas line needs upgrading to handle a tankless unit, add $400 to $1,500 on top of that. Get at least two written quotes and compare them scope for scope, not just the bottom line.

Ask each contractor which permits they will pull, when the inspection is scheduled, and whether the inspection is included in the quoted price.

Q4

Tank or tankless for a Calgary basement suite, which fits better?

A standard 50-gallon gas tank water heater supplied and installed runs roughly $1,500 to $3,500 in Calgary; a tankless gas unit costs $2,200 to $5,000 installed, plus $400 to $1,500 more if the gas line needs upgrading. For a basement suite, that gap matters, but so do several practical factors that often tip the decision.

Tank vs. Tankless for a Suite

A tank heater is simpler and cheaper upfront. It works well when the suite has its own dedicated unit, the basement has enough space for the tank and its clearances, and the existing gas line can handle the load. The main drawback in Calgary is hard water: the City's water supply runs roughly 141 to 274 mg/L of hardness depending on which treatment plant feeds your neighbourhood. Sediment builds up faster here than in softer-water cities, so annual flushing is not optional, it is maintenance. A tank typically lasts roughly 8 to 12 years, and neglect in hard water pushes it toward the short end.

A tankless unit delivers hot water on demand and takes up far less wall space, which matters in a basement where mechanical room square footage is tight. The tradeoff is a much higher gas demand while it runs: the existing gas line was sized for the original appliances, and adding a high-output tankless unit can require upgrading to a larger line or adding a dedicated run. Get a gasfitter to assess the existing gas supply before you commit to tankless, because that upgrade alone can add $400 to $1,500 to the project.

Venting is the other variable. A tankless unit usually needs its own venting, often through an exterior wall. In a basement suite that may mean cutting through concrete or navigating finished walls. A conventional tank may be able to use an existing flue if it is the right size and configuration, though that needs to be confirmed on-site.

For a basement suite specifically, also consider whether the suite shares a water heater with the main unit or has its own. A shared tank is simpler to install, but hot water and utility costs then have to be split between households. A dedicated unit for the suite, whether tank or tankless, is cleaner for a landlord-tenant relationship.

Permit rules in Calgary: The City of Calgary does not require a permit for a straight like-for-like tank swap, but a permit is required when the venting changes, when the gas line upstream of the shut-off valve changes, or when the type of heater changes (for example, switching from a natural draft tank to a direct-vent tankless). A homeowner cannot take out a gas permit in Calgary unless they are a certified journeyman gasfitter; the certified gasfitter doing the work takes out the gas permit, and the City inspects the work.

Before hiring, ask the plumber or gasfitter for their trade certificate number, confirm the contractor holds an Alberta prepaid contracting licence if you are paying a deposit, and request a WCB-Alberta clearance letter.

When you get quotes, ask each contractor exactly which permit they will pull, who books the inspection, and what happens if the gas line needs upgrading once the work is open.

Disclaimer: This guide is provided for informational purposes only by Calgary Plumbing Pro. It does not constitute professional advice. Always consult qualified, licensed contractors and your local building authority (the City of Calgary or your own municipality) before starting any plumbing or gas project. Information is current as of November 15, 2026 and may change. Visit **calgaryplumbingpro.com** for the latest answers.