

HOMEOWNER GUIDE

Heat Pumps: What You Need to Know

A plain-language guide for Canadian homeowners: before, during and after a heat pump installation.

The short version

- 1. Seal and insulate first.** A draft-free home needs a smaller, less expensive heat pump and stays more comfortable.
- 2. Insist on proper sizing.** Ask for a heat loss calculation (CSA F280). Bigger is not better.
- 3. Check your electrical panel and ducts** before you sign. Upgrades can add thousands to the cost.
- 4. Get it set up and tested properly.** A good installation is as important as a good heat pump.

1 How a Heat Pump Works

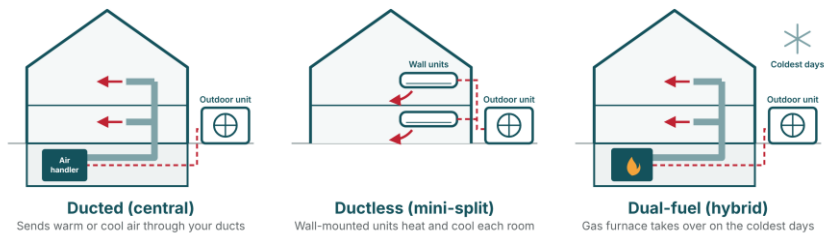
A heat pump moves heat instead of making it. In winter it pulls heat from the outdoor air, even when it is very cold, and brings it inside. In summer it runs in reverse and works like an air conditioner. **One system heats and cools your home.**

Because it moves heat rather than burning fuel, a heat pump can deliver **2 to 4 units of heat for every unit of electricity it uses**. That is why it can lower your energy bills, especially if you heat with oil, propane or electric baseboards.

How is it different from a furnace and air conditioner?

	Furnace and air conditioner	Heat pump
Heating	Burns gas, oil or propane to create heat	Moves heat from outside into your home, burning no fuel
Cooling	Needs a separate air conditioner	Built in: the same unit cools your home in summer
Equipment	Two systems to buy and maintain	One system for year-round comfort
Comfort	Short bursts of hot air, then off	Most modern models run longer at lower speed for steadier, more even temperatures

Common types



Ducted suits homes that already have ductwork. **Ductless** suits homes without ducts, additions and hard-to-heat rooms. **Dual-fuel** suits homes keeping a gas furnace as backup.

Do they work in Canadian winters?

Yes. Modern **cold-climate** heat pumps keep heating at -25°C or colder. Always check the model's lowest operating temperature and how much heat it delivers at -15°C and -25°C, not just at mild temperatures.

2 Is Your Home Ready?

Most heat pump problems come from the house, not the equipment. Check these before you buy them.

Check	Why it matters
Air leaks and insulation	A leaky home stays drafty and uncomfortable however good the heat pump is. Sealing first means a smaller, cheaper system.
Sizing (CSA F280)	A heat loss and heat gain calculation (F 280) shows how much heating your home really needs. It should be done by a qualified person who looks at your actual house, not guessed from square footage.
Electrical panel	Many older homes have 60 or 100 amp service. A heat pump may need a panel or service upgrade, which costs more, may require a permit, and can take weeks to arrange with your utility.
Ductwork	Heat pumps need more airflow than a furnace. A duct flow test shows whether your ducts are adequate, need small changes, or truly need replacing. Get a second opinion before replacing ducts.
Thermostat	Many standard thermostats do not run heat pumps properly. You may need a compatible one.

Bigger is NOT better

An oversized heat pump turns on and off too often. It wastes energy, wears out sooner, and can leave your home humid. An undersized one leans on expensive backup heat. **Ask every contractor: "Will you do a CSA F280 heat loss calculation and show me the results?"** If the answer is no, that is a red flag.

Consider an Energy Advisor

A registered Energy Advisor is independent: they do not sell equipment. They can assess your home, tell you what to fix first, help with sizing, and recommend reputable installers. This is especially helpful if you are planning other upgrades such as insulation, windows or a renovation.

3 Heating Broke Down? You Can Still Get It Right

Most heating systems are replaced in a hurry, after a breakdown. Even then, **an Energy Advisor can help, often within a day or two**, without slowing down your installation or your rebate.

- **Check the quote.** An Energy Advisor can review the size and model you have been offered, often remotely, and flag a unit that is too big or not built for cold weather.
- **Size it quickly.** If your home has had an EnerGuide evaluation, they can often check the sizing (CSA F280) from that report. If not, a short visit can usually be done within a day or two.
- **Test before you replace ducts.** A quick duct test can save you from paying for new ductwork you do not need.
- **Catch safety issues**, such as a gas water heater that may not vent properly once the furnace is removed.

- **Buy time if you need it.** Ask about temporary heat or a short-term repair so you can choose the right heat pump, not just the one available today.
- **After installation,** an Energy Advisor can confirm the system was set up properly and suggest next steps, such as air sealing, to make it work even better.

Tip

Find an Energy Advisor **before** your system fails, so you know who to call. Many of CACEA's members can provide an F280 calculation and do a duct flow test in addition to audit services.

[LINK TO DIRECTORY](#)

Commented [CG1]: Can an EA do this?

4 Choosing the Right Heat Pump

- ☐ It is a **cold-climate** model, listed on the NEEP Cold Climate Heat Pump list (neep.org) or **ENERGY STAR®** certified.
- ☐ You have its heating output at **-15°C and -25°C**, compared with what your home needs.
- ☐ You understand what **backup heat** you will have on the coldest days (electric strips, furnace or other).
- ☐ You know what the **defrost cycle** looks and sounds like. Some steam and noise in winter is normal.
- ☐ The quote lists the **exact make and model numbers** for both the outdoor and indoor units.

Commented [CG2]: Will NRCan list eligible HP like CGH?

The ratings, in plain language

Rating	What it tells you	Tip
SEER2	Cooling efficiency, like fuel economy for summer	Higher is better
HSPF2	Heating efficiency over a season	Higher is better; compare between quotes
COP	Heat delivered per unit of electricity	A COP of 3 means 3 times the heat for the power used
BTU / tons	How much heating or cooling the unit can deliver	Should match your F280 calculation, not just your house size

5 Hiring a Contractor

A heat pump is a large investment you rely on for 15 to 20 years. Take time to find the right installer.

Check their credentials

- ☐ Licensed for HVAC, refrigeration and electrical work in your province, and gas work if a furnace is involved. Verify with your provincial safety authority (for example TSSA in Ontario or Technical Safety BC).
- ☐ Carries liability insurance and workers' compensation (WSIB or WCB) coverage.
- ☐ Can provide recent references for heat pump installations and is a member of HRAI (hrai.ca) or registered with a rebate program.

Questions to ask a contractor

Topic	Ask
Sizing	Will you do a CSA F280 calculation? Can I see it? Why this size and not smaller or larger?

Topic	Ask
Ducts and electrical	Will you test my ductwork? Will my electrical panel need an upgrade, and is that included the price?
Equipment	Which model, and why? What is its output at -25°C? Did you verify it is rebate-eligible?
Installation	Who will do the work? Will you get all the permits if required? How will the old refrigerant be recovered?
Testing	Will you test airflow, temperatures and refrigerant charge after the installation, and show me how to use the controls?
Price and warranty	Is the price fixed? What is NOT included? What is your workmanship warranty, separate from the manufacturer's?

Do I need a permit?

It depends on where you live, as rules are set by your province and city. **An electrical permit is almost always needed** for the new circuit or a panel upgrade, and the licensed electrician will take care of getting it. A **gas permit** may be needed if a gas furnace or boiler is removed or disconnected. Some cities also require a **building or HVAC permit**, others do not. Ask your contractor which permits they will acquire and be cautious if they say none are needed.

6 Red Flags and Scams

Walk away if you hear or see any of these

- ✗ "I know what size you need" with no calculation, or the biggest unit with no explanation.
- ✗ An offer to skip permits, or a vague contract with no model numbers.
- ✗ Pressure to sign today, "don't bother getting other quotes," or cash only.
- ✗ Door-to-door sellers claiming to be from, or approved by, the government.
- ✗ Being told you must replace your ducts with no test/proof to show it is necessary.

Scam	How to protect yourself
Bait and switch: quoting a high-efficiency model, installing a cheaper one	Put the exact model numbers in the contract and check the labels when the equipment arrives.
Oversizing for profit: bigger units cost more	Ask for the F280 calculation and compare it with the size quoted.
Rebate tricks: false eligibility claims or inflated invoices	Check eligibility yourself on the official program website.
Financing on your home title: some rental or financing plans register against your property	Ask: "Will this register on my title?" before signing.

7 Costs and Rebates

The quoted price is often not the full cost. Ask what is not included, and budget for items like these (typical ranges; prices vary by region and home):

Possible extra cost	Typical range	When it applies
Electrical panel or service upgrade	\$2,500 – \$5,500+	Common in older homes

Possible extra cost	Typical range	When it applies
New circuit for the outdoor unit	\$300 – \$800	Almost always
Duct changes or sealing	\$500 – \$6,000	When airflow is not enough
Heat pump-compatible thermostat	\$200 – \$500	If yours is not compatible
Pad or wall bracket for outdoor unit	\$300 – \$600	Most installations
Permits	\$100 – \$500 each	Depends on your city and province/territory

About rebates

The federal **National Heat Pump Rebate** (announced October 2026) offers up to **\$10,000** for eligible below-median-income households and **\$2,000** for other eligible households and can be combined with provincial/territorial programs. Check the official program website for current rules.

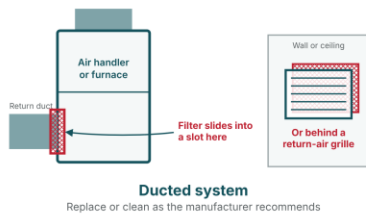
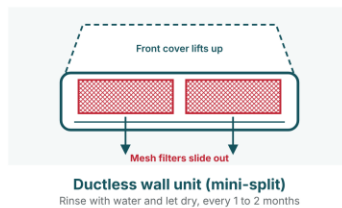
Most rebates are paid **after** the work is done, so plan to pay the full cost up front.

8 After Installation and Upkeep

Before the installer leaves

- ☐ They tested the system (airflow, temperatures, refrigerant) and showed you the results.
- ☐ They showed you how to use the thermostat and where the filter is.
- ☐ You have the permits, model and serial numbers, and warranty papers. Register the warranty right away.
- ☐ Submit your rebate application and tell your home insurance company about the new equipment.

Keeping it running well



- ☐ Clean or replace filters regularly, as shown above.
- ☐ Keep the outdoor unit clear of snow, ice, leaves and plants, with about 60 cm (2 ft) of space around it.
- ☐ Keep indoor vents and indoor units unblocked. Closing vents does not save energy.
- ☐ Book a professional service every 1 to 2 years. A heat pump typically lasts 15 to 20 years.

Keeping a gas furnace or boiler as backup?

Keep a working **carbon monoxide alarm** on every floor and test it monthly. If it sounds, leave the home and call 911 from outside.

Helpful Resources

- nrcan.gc.ca and caceea.ca: find a registered Energy Advisor and federal program information
- neep.org: check a model is rated for cold climates. hrai.ca: find an HVAC contractor

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- **Provincial safety authority** (e.g. tssa.org): check licences. **City website**: check permits
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