

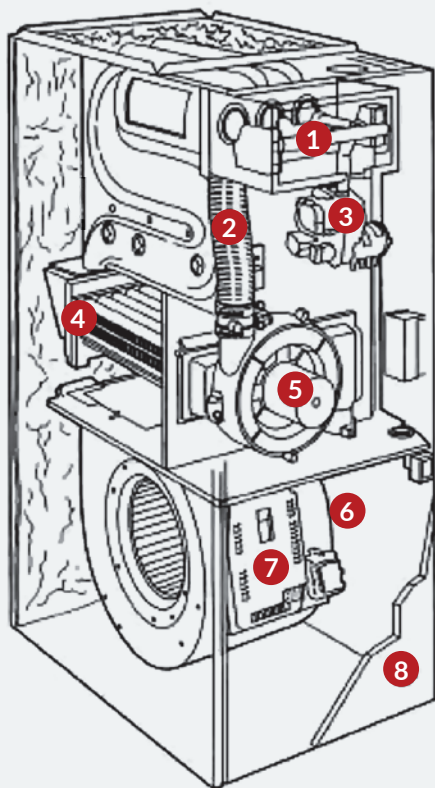


# Furnace Buying Guide

# Purchasing a new furnace can be daunting, but it doesn't have to be!

We've put together all the key elements to help you make an informed and educated choice.

## Furnace Components



- 1 Burner Box/  
Burner Assembly
- 2 Furnace  
Exhaust Venting
- 3 Gas Valve
- 4 Heat Exchangers
- 5 Inducer Motor
- 6 Blower Motor and  
Blower Motor  
Assembly
- 7 Circuit Board
- 8 Furnace Cabinet

## When comparing furnace models, the 3 main differences are:

### AFUE – Furnace Efficiency

Currently this ranges from 96% to 99% in Alberta. This is a measure of how much energy from gas combusted in the furnace is used to heat your home. The higher the number the better.

### Number of Furnace Stages – Single Stage, 2 Stage or Modulating Gas Valve

Generally the more stages a furnace has, the better the furnace will be at maintaining an even temperature in different areas of your home. Furnaces with modulating gas valves can vary heating output anywhere from 30% up to 100%.

### Blower Motor Type – ECM or Variable Speed

Variable speed motors allow the furnace to vary air flow through the home matching heating demand and also reducing noise level when the furnace is circulating air.

# High-efficiency furnace models

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## Single Stage Furnace (96% AFUE)

They are best suited for bungalows, open floor plans, and townhomes. However, they only have on or off functionality.

- ▶ Requires 20-40% less gas annually
- 

## Two Stage Furnace with ECM blower (96% AFUE)

Perfect for two-story homes and families that want more out of their heaters. They can heat multiple levels consistently and evenly. They have two stages of output intensity like settings on a hotel desk lamp.

- ▶ Requires 30% less gas and 33% less electricity than a single-stage high-efficiency furnace

## Two-Stage Furnace with Variable Blower (96% AFUE)

It has an upgraded control board and an additional component added onto the ECM blower.

The unit can run continuously at very low speeds! Perfect for larger two-story homes with problematic hot or cold areas. Also, an excellent solution when air quality concerns need addressing or you are a light sleeper. Same as ECM option but costs even less to operate.

- ▶ Requires 30% less gas and 66% less electricity than the single-stage furnace
- 

## Modulating Furnace with Variable Blower (97-98% AFUE)

Designed primarily for large custom homes with zoning. These models offer ultimate comfort in all styles of homes and floor plans. To get the maximum benefits from these furnaces, they sometimes need to be paired with a costly “communicating” thermostat. They operate like a light dimmer switch. Various outputs of intensity with ease.

- ▶ Requires 8-12% less gas than a two-stage furnace

# How much does a high-efficiency furnace cost?

Cost is always a key factor when purchasing anything. Here is the breakdown to help you understand the range of pricing on furnaces:

Single-stage Furnace	Two-stage Furnace	Modulating Furnace
1,000 ft <sup>2</sup> ————— \$4,300 (30-60,000 BTU)	1,000 ft <sup>2</sup> ————— \$5,100 (40-60,000 BTU)	1,000 ft <sup>2</sup> ————— \$6,100 (45-60,000 BTU)
1,050 – 1,600 ft <sup>2</sup> — \$4,500 (70-80,000 BTU)	1,050 – 1,600 ft <sup>2</sup> — \$5,300 (70-80,000 BTU)	1,050 – 1,600 ft <sup>2</sup> — \$6,400 (70-80,000 BTU)
1,650 – 2,100 ft <sup>2</sup> — \$4,700 (90-100,000 BTU)	1,650 – 2,100 ft <sup>2</sup> — \$5,400 (90-100,000 BTU)	1,650 – 2,100 ft <sup>2</sup> — \$6,600 (90-100,000 BTU)
2,150+ ft <sup>2</sup> ————— \$4,900 (115-135,000 BTU)	2,150+ ft <sup>2</sup> ————— \$5,600 (115-135,000 BTU)	2,150+ ft <sup>2</sup> ————— \$6,800 (115-135,000 BTU)

**Why such a big range?** Furnace efficiency, warranties, brands, equipment add-ons, unit size and install application vary from home to home and then there is the contractor variable to consider.





# 7 steps to install a new high-efficiency furnace



## 1 Remove and dispose of the old furnace

You want a reputable contractor with insurance and guarantees. Walls and floors are commonly damaged when dealing with mediocre installers. WCB is important too! Carrying heavy objects, walking on ice and snow, climbing onto roofs and handling sharp materials are all part of your installation.

## 2 Core holes in the side of the home for the intake and exhaust

Mediocre installers can make a mess of your home. Coring holes in the wrong location/ position & damaging water and electrical lines happen in our trade more often than you want to know. Protect yourself and your home.





### 3 Resize existing chimney to a smaller diameter for the hot water tank

Some chimneys have offsets or were installed improperly from day 1. Be prepared for possible access holes to be cut in walls or ceilings if not caught during the initial consultation. Even worse, you could be forced to purchase more expensive equipment once the installation has begun.

### 4 Placement of new furnace

Install carbon monoxide detectors, basement return air, sheet metal adapter, filter rack, drain, horizontal PVC venting, and the hot water tank venting. Reconnect the gas line, electrical circuit and thermostat control.

No matter what equipment you buy, its performance and longevity are affected by the quality of the installation. Understand, the end of the assembly line is your mechanical room. We all hear the stories where people curse the day they installed a new high-efficiency furnace. Upon closer inspection, poor installation(s) are to blame.

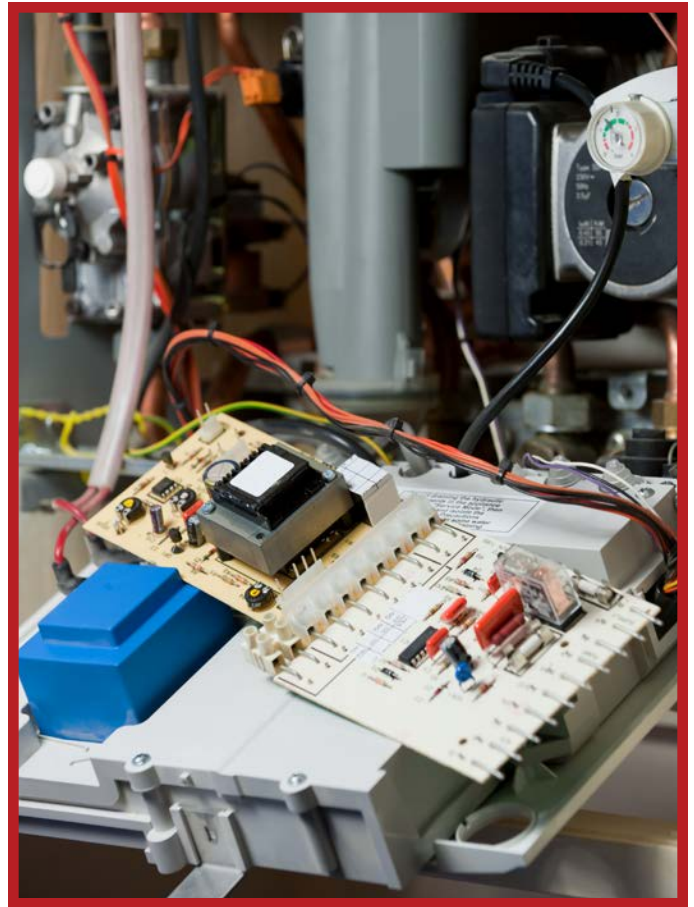


## 5 Commissioning the new unit

Test fire unit and calibrate the gas pressure and air flow. In most instances, check and adjust all the home supply vents too.

Don't be alarmed when the smoke detectors go off, and you smell a strange smell. The furnace is test fired and the oils and chemicals on the heat exchanger are getting burned off.

Furnaces require tuning to match your home. Heaters have control boards with dip switches, and they are used to calibrate the unit of your home. If done improperly or left at default, you're guaranteed a miserable experience. Sadly, this is the case with far too many installations.



## 6 Complete checklists, client quality assurance walk-through and explain products

A reputable contractor will perform a walkthrough with you, ensuring you're satisfied with the installation and explain how your new equipment operates. If your sales rep or estimator doesn't pay attention to detail or whips in and out of your home, you can bet it will be the same for the installers. Be aware!

## 7 Collect payment or finalize financing

Never pay in full upfront. Some companies will require 10%, 25% or even 50% down to secure the day and equipment. You don't pay until the job is completed and you're happy.



**A quality installation averages eight hours**

# High-efficiency furnace warranties



## Furnace Heat Exchanger Warranties

All furnaces in Canada come with a manufacturer's warranty. HEAT EXCHANGER warranty & PARTS warranty.

Heat exchanger warranties have become very important because in the past ten years "cracked heat exchanger(s)" is the #1 reason why most furnaces are failing.

New High-Efficiency furnace heat exchanger warranties are all considered LIFETIME and cover both primary and secondary.

LIFETIME could mean 20, 25 or 99 years depending on the brand. Some manufacturer warranties are attached to the equipment and some to the owner, you should get clarification from your contractor (written not verbal) OR ask for a copy before the installation date.

Heat exchanger warranties mean you will receive a new heat exchanger but still have to pay contractor labor. The average is \$1,500 to install a warranted heat exchanger.

Some contractors will also charge you for the heat exchanger itself and reimburse once they get compensated from the manufacturer. This may take up to six months.

## Furnace Parts Warranties

Parts warranties are a standard five years but once registered, most get bumped to 10 years. Any working part inside your furnace is replaceable for the next ten years.

Some manufacturers require annual maintenance/service for the warranty to stay valid but not all.

Parts warranties don't cover neglect or maintenance related issues; i.e. dirty flame sensor or plugged condensation drains.

## Furnace Labor Warranties

Labor can be offered by the manufacturer or the installing contractor.

Most manufacturers offer three, five or ten-year extended labor warranties to pair with their parts warranty.

Most manufacturers only give 30 days to make this decision, but some allow up to five years after the installation date.

Labor warranties cover the hourly rate to replace a warranted part on your appliance. When labor

warranties get purchased from the manufacturer, they also include the dispatch fee!

A new trend in Canada is for contractors to offer in-house labor warranties! They will provide anywhere from 1 to 12 years!

Some will mandate annual servicing and others will not.

Almost all contractors will charge you for a dispatch fee, especially on a warranty call. These charges can become very high when outside of regular business hours and during peak seasons.





# Guarantees

**A good contractor will generally back up their work with actual guarantees on top of the warranty.**

We guarantee that the installation will pass inspection and conform with all applicable building codes. Any deficiencies will be corrected immediately at no cost to you.

Quality of installation varies from contractor to contractor and installer to installer. Not all contractors are equal.

**Selecting your furnace brand is a very important step – but successful installation is the most critical part of the process!**

- ▶ Advanpro guarantees the Heating and Cooling Systems we install in your home are property sized and will heat or cool the areas of your home served by the new equipment.
- ▶ Advanpro guarantees that the price in this quote is the price you will pay on the date of installation. There are NO extra fees or charges! This price is good for 30 days from the date of quotation.
- ▶ At Advanpro we pride ourselves in delivering the best service and the highest quality workmanship available.

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**Equipment will only perform as well as it's installed!**

# Glossary

## AFUE

Annual fuel utilization efficiency. The percentage a furnace can convert burned gas into real heat in your home. The higher the number, the better.

## Communicating Thermostat

A proprietary thermostat paired with the furnace that squeezes the maximum energy savings and performance out of the equipment and gives enhanced control over the machine. Usually, require four wires from the thermostat to the control board to operate.

## ECM

Electronic commutated motor. A type of DC power motor. Uses less energy to perform the same job. This motor lowers your electricity bill.

## Heat Exchanger

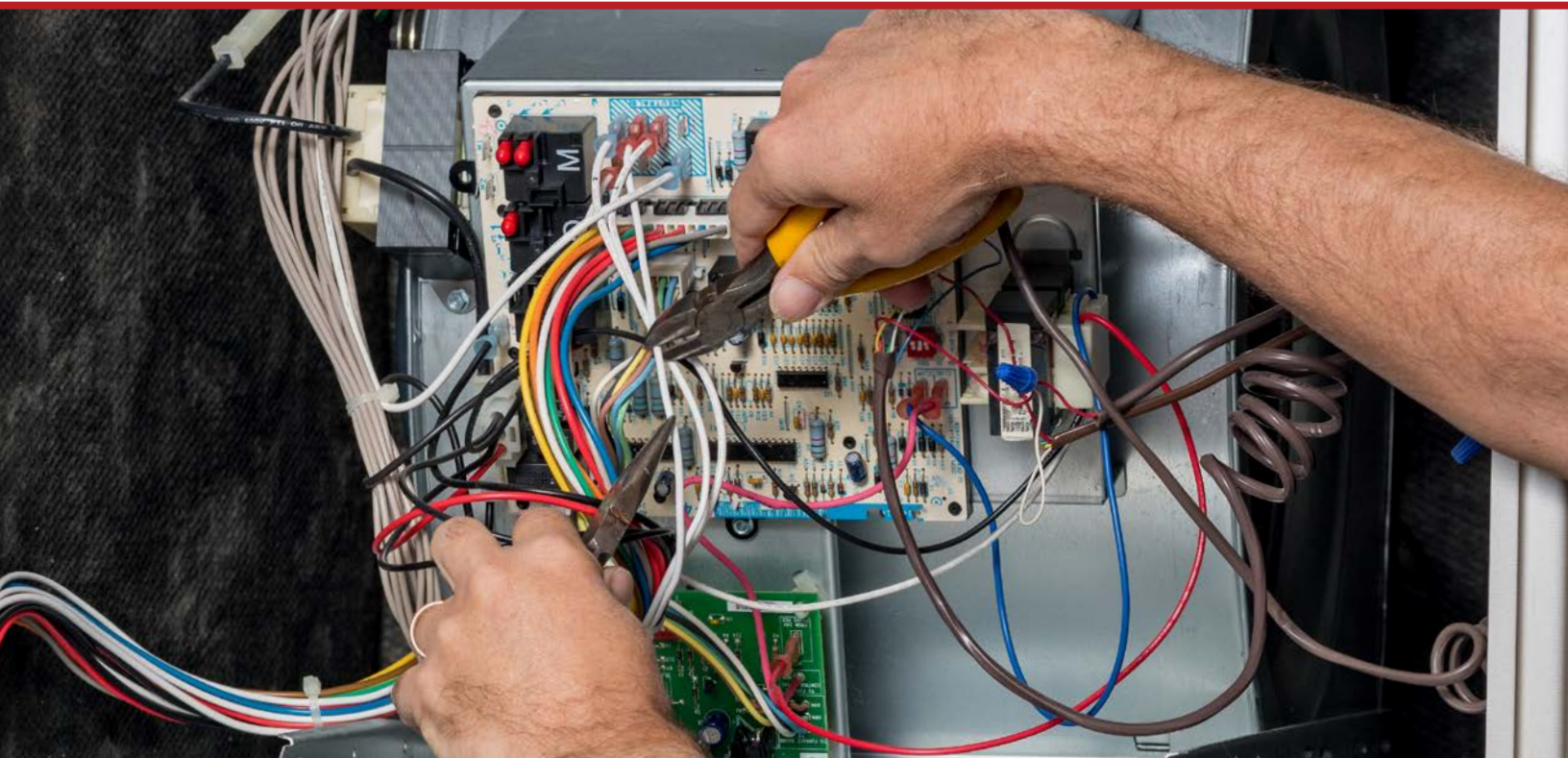
The metal component inside the furnace where heat gets transferred to your homes ducting system. There are two heat exchangers (primary and secondary) in new high-efficiency furnaces. The extra 12-15% efficiency on high-efficiency furnaces comes from the secondary heat exchanger.

## Modulating

Simply a valve that can produce varying amounts of heat depending on the demand of the home. Most efficient gas operation on the market to date.

## Variable

An enhanced version of the ECM. The most energy efficient motor available. The quiet and continuous operation help with better air distribution and enhanced air quality.





# GET AN ACCURATE QUOTE. INSTANTLY!

With the Advanpro Furnace & Duct Cleaning Calculator

LET'S GET STARTED →

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