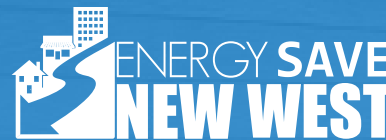


Central Ducted

Heat pump for single-family ground oriented houses



A central ducted heat pump is a good fit for your home if you are...

- ✓ Already heating with forced air with existing ductwork to all levels.
- ✓ Seeking a more economical way of heating.
- ✓ Replacing central air conditioning (AC) or adding home cooling.

THINGS TO CONSIDER WHEN DESIGNING/SELECTING A CENTRAL DUCTED HEAT PUMP

\$ INSTALLED COST – Central ducted heat pump costs can vary based on various factors including size of the home, existing ductwork condition, climate, and product type and efficiency.

✕ SIZING – For the heat pump to work at its optimal rated efficiency, it is important to size the equipment based on a proper heat loss/heat gain calculation of the home. Under- or oversized equipment will likely reduce the comfort and increase the electricity costs. To properly size the equipment, it is necessary to use the CSA F280 Standard calculation method. While the F280 calculation is required by BC Building Code, it is often overlooked, and a rule of thumb method is used instead. This may result in installing a heat pump with too large or too little capacity. If your heat load is too large, consider upgrading insulation, windows/doors and airtightness of your home before replacing your heating equipment.

📍 ZONE CONTROL – Although it is possible to control temperature zonally with a central ducted heat pump system by utilizing dampers with variable speed equipment, it can be quite complex to install and costly.

🏠 EXISTING DUCTWORK – The existing ductwork is also a critical part of the central ducted heat pump retrofit project. Before selecting a heat pump, your existing ductwork needs a careful examination to ensure the existing ductwork is properly sealed and its capacity can handle the new system.

💧 SUPPLEMENTAL HEAT SOURCE – Depending on the climate and product type/efficiency, some type of auxiliary or backup heating may be required. There is an all-electric solution as well as a dual fuel solution where a gas furnace is used as backup heating. If a cold climate heat pump is installed, homeowners can reduce or eliminate the need of supplemental heating.

⚡ ELECTRICAL PANEL/SERVICE CAPACITY – In many cases of older homes, homeowners may require upgrading the electrical panel and/or service to accommodate your heat pump's additional electrical load, and depending on the current capacity and service availability, the electrical upgrade cost can sometimes be higher than expected. In this case, you may also consider installing an energy management system.

USEFUL LINKS

REBATE INFORMATION

- ▶ [CleanBC Better Homes Heat Pump Rebate \(Central\)](#)
- ▶ [CleanBC Better Homes Heat Pump Rebate \(Ductless\)](#)
- ▶ [CleanBC Better Homes Heat Pump Rebate \(Dual Fuel Ducted\)](#)
- ▶ [CleanBC Better Homes Heat Pump Rebate \(Air-to-Water\)](#)
- ▶ [CleanBC Municipal Top-up](#)
- ▶ [Canada Greener Homes Initiative](#)

THINGS TO CONSIDER WHEN INSTALLING A CENTRAL DUCTED HEAT PUMP

Indoor Unit - Air Handler

In a centrally ducted system, the air handler inside the home distributes air into the entire home through ductwork. An advantage of having a central system is its ability to incorporate the following features more easily.

- ▶ **Filtration** – Filtration is critical for the indoor air quality and your health but is also important for keeping your equipment efficient. When selecting a filter, it is recommended installing a proper manufacturer's filter cabinet which ensures all the air to go through the filter. It is also recommended to install a minimum 4-inch pleated filter with Minimum Efficiency Reporting Values (MERV) Rating 8 or higher depending on occupants' health considerations.
- ▶ **Fresh air ventilation** – If your home is airtight, consider incorporating a heat recovery ventilator (HRV) to the central system for balanced ventilation while saving energy when bringing in fresh air from outside.



Outdoor Unit – Condenser/Compressor

The outdoor unit or condenser/compressor of a central ducted heat pump system is typically about the size of a mini bar fridge. It uses its surrounding air to transfer heat to an indoor air handler for distribution.

OUTDOOR UNIT LOCATION

- ▶ **Local bylaws** – No building permit is required for single family homes including homes with secondary suites, townhouses or row houses and duplexes, but the noise limit compliance will be required.

Check out the City of New Westminster bylaws around noise limits.
Building permits are required for multifamily buildings including condos and apartment buildings.
- ▶ **Unobstructed airflow** – Heat pumps extract heat from surrounding air so it is important to locate the outdoor unit where free airflow is well maintained.
- ▶ **Roof runoff** – Avoid locating under a roof drip line or where snow slides off the roof.
- ▶ **Mounting** – Consider using a ground stand/riser or vibration isolation pad to minimize noise and keep snow out of your heat pump. Wall mounts can also keep away from mowers and shovels but can sometimes transmit noises inside. Also, some municipalities may require an extra permit to mount a heat pump on the external wall.
- ▶ **Serviceability** – Outdoor unit should easily be accessible for servicing and maintenance separate condensate pump.

Other Considerations

- ▶ **Quality installation and warranty** – You should hire a contractor who can do a quality installation and ensure your equipment is providing maximum efficiency and comfort. Your contractor should verify the heat pump is performing within its rated range and complete commissioning reports. If you're applying for CleanBC Better Homes rebates, you must have the work completed by a Home Performance Contractor Network (HPCN) member who have been trained and registered by the [Home Performance Stakeholder Council](#).
- ▶ **Maintenance** – Regular maintenance is recommended to maximize equipment efficiency and longevity.
 - Schedule maintenance service every 1-2 years, preferably alternate season from the last visit.
 - Clean your filter regularly and replace with new every 6 - 9 months (recommended for 4" pleated filter)
 - Check your outdoor unit at the start of every season and ensure airflow is not restricted.

FOR MORE INFORMATION VISIT ENERGYSAVENEWEST.CA OR CALL 604.515.3818