NOVO CLIMAT

Novoclimat Owner Guide

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Congratulations, you are now the owner of a Novoclimat home!

You made the right choice.

By choosing a new Novoclimat home you will enjoy a comfortable and healthy environment. In addition, beginning right now and throughout the coming years, you will benefit from significant savings on your electricity bill. Your home will also stand the test of time and conserve an excellent resale value.

Your home was inspected as it was being built to ensure that it met the requirements of the Novoclimat program. The Novoclimat certificate issued by the Government of Québec to this effect is your confirmation!

About this guide

This guide was prepared to help you get the most out of the many advantages provided by your Novoclimat home. It describes:

- the characteristics that make it so special
- how to use it
- what you should do to get the best possible performance
- advice and recommendations on how to maintain the equipment
- a FAQ section to quickly find brief answers to questions that will probably arise during each season of the year and as you live in your home

It's now up to you to enjoy your new home to the fullest... for many years to come. Read on to learn more!

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1. A Novoclimat home for everyone

The Novoclimat program consists of three components composed of different categories of homes.

Houses

› single-family homes, detached, semi-detached, or row houses, bi-generational or single-family housing with an adjacent home. Certain prefabricated houses may also be Novoclimat-certified.

Small multi-unit residential buildings

› buildings with three or fewer storeys, 600 m^2 or less.

Large multi-unit residential buildings

› buildings over 600 m^2 and up to 10 storeys.

1.1. Each Novoclimat home is different

Just like the design, the technique used to build a Novoclimat home can vary from one project to another. A home that will be Novoclimat-certified can be built using different types of structures, materials and heating systems.

You should view your home as a system: each element has an impact on the performance of the whole. This is why technical requirements apply to different elements of the home.

1.2. Built and inspected by Novoclimat-certified professionals

Specially trained Novoclimat-certified professionals work together to ensure that future occupants enjoy a home that complies with current Novoclimat quality requirements during its construction.

Before being able to build or inspect Novoclimat-certified homes, these professionals must undergo rigorous training to fully master the Novoclimat program requirements.

2. Advice and recommendations for equipment maintenance

2.1. Get the most comfort from your Novoclimat home

All the technical characteristics incorporated into your Novoclimat home contribute to providing you with a comfortable, healthy indoor environment and help reduce your energy use.

In addition, certain elements give you better control over the temperature, humidity and air quality of the entire home.

2.2. Control the heating temperature according to your needs

The electronic thermostats in your home allow you to reduce the heating load and decrease your energy use while, at the same time, maintain a uniform temperature in all the rooms of the home. The difference in temperature when you are in your home and the temperature when you are absent (or at night) can be as much as 3°C. For example, in winter, the air temperature of the home could be maintained at approximately 21°C when you are at home and lowered to approximately 18°C at night and when you are absent. In addition to ensuring optimal comfort, controlling the temperature in this way will provide significant energy savings.

Tip

If you normally go to bed at 11:00 p.m., program the thermostat to lower the temperature at 10:00 p.m.

If you normally get up at 6:00 a.m., program the thermostat to increase the temperature at 5:00 a.m.

You can also lower the temperature in unused rooms if your heating system allows you to do this; you can lower the temperature to 15°C by keeping the doors of unused rooms closed.

If your heating system is controlled by a programmable thermostat, you can program temperature decreases and increases according to your needs. We suggest that you program the temperature to decrease approximately one hour before you normally go to bed or when you leave for work. In the same way, you can program the temperature to increase approximately one hour before you get up or return home. Lowering the temperature will reduce your heating bill.

Given the energy performance of Novoclimat homes, it is usually not necessary to lower the temperature for periods of less than two hours.

2.3. Control air conditioning

If your home is equipped with an air conditioning unit, the indoor thermostat should be set at approximately 25°C when you are home. If the relative humidity of your home is very high, it is probably best to set the temperature at approximately 22°C. However, it should be remembered that the more the air conditioning unit works to lower the air temperature, the higher the cost of operating it. When the relative humidity is low, you will have no trouble adapting to higher temperatures.

Just as you do to heat during the winter, properly adjusting the thermostat of the air conditioning unit when you are not at home will reduce the cost of using it. If there is no one home during the day, you can adjust the thermostat of the air conditioner a few degrees before leaving and set it at the desired temperature when you return home.

2.4. Clean the ducts of the forced-air heating network

If your home is equipped with a forced-air furnace, have the ducts thoroughly cleaned by experts. This will remove dust and debris (pet hair, paper clips, toys, etc.) that have accumulated in the ducts.

It may also be worthwhile having the ducts cleaned if there has been water seepage, since mold can grow in the ducts. If you are having airflow problems with your heat generator, having the ducts cleaned may clear up the problem by removing large obstacles that are blocking the air.

If you decide to have the heating ducts cleaned, call a recognized duct cleaning service provider. The cleaning frequency depends on your lifestyle. For example, if the home is occupied on a full-time basis by five people with the ensuing dust or if smokers or pets are present, the ducts must be cleaned more often than a home occupied by a single person who is only at home in the morning and evening.

Never agree to have chemical products sprayed inside the ducts after they have been cleaned under the pretext that it will eliminate any remaining bacteria and molds. There are currently no products registered in Canada under the *Pest Control Products Act* for cleaning ducts in homes[1].

1 http://publications.gc.ca/collections/collection_2011/schl-cmhc/nh18-24/NH18-24-29-2007-fra.pdf

2.5. Reduce the risk of overheating rooms

Depending on the orientation of the home, windows can let in a lot of heat. The judicious use of window blinds and curtains can reduce overheating caused by windows. Certain trees, when planted in the right spot, can also be an effective barrier against overheating. When large expanses of glass surface face west or south, we strongly recommend using exterior shading devices (e.g., sunscreens, wider eaves, canopies, awnings, shutters, dense vegetation) to reduce the risk of overheating.

2.6. Adjust the relative humidity and keep it at an appropriate level

Control humidity to protect your health

A certain amount of humidity in the air of your home is essential for your health and that of your home.

Normally, your nose acts as a filter and blocks particles in the air of your home, including dust and certain microbes, thus protecting your lungs. However, when the air inside becomes too dry, your nasal mucosa dry out and your nose becomes less efficient at filtering out these small particles. On the other hand, when the air in your home becomes too humid, pollutants such as molds can grow and spread.

Be sure to maintain the proper level of humidity. The optimal comfort zone for your health is between 40 and 50% relative humidity. The farther the level of humidity is from the optimal zone, the greater the risk for your health.

In Novoclimat homes, we try to maintain the air quality and relative humidity within a zone that provides optimal comfort for most occupants.

Control humidity to ensure your home stands the test of time

A certain level of humidity in your home is also essential to ensure that it stands the test of time. Air that is too dry can have an adverse impact on certain elements of your home. For example, it could cause wood floorboards to crack. On the other hand, air that is too humid can lead to condensation and the growth of mold on windows, interior surfaces, in walls, etc.

Window and door panes

When the relative humidity rises and the outside temperature drops, the risk of condensation increases. When this happens, condensation may form on glass panes, even in a Novoclimat home. If this occurs, we recommend that you wipe it off.

Tip

To avoid the formation of condensation on windows and patio doors, make sure that warm air can circulate freely over the glass.

In winter, remove mosquito screens and open blinds and curtains. Otherwise, warm humid air will have the time to cool down on contact with the glass panes and window frames, and the humidity in the air will condense on them.

Vapour barriers

A vapour barrier is usually a plastic membrane installed behind drywall panels. However, other materials can also be used, such as some types of insulation. The reason for using vapour barriers is to prevent the humidity in indoor air from migrating toward the outside of the building because it could cool down and condense inside the building envelope.

Building airtightness

A building must be truly airtight in order to control the humidity inside. Airtightness was verified during the Novoclimat inspection using a blower door test performed by an independent government-mandated specialist. The test consists of determining the volume of air that escapes through the building envelope (e.g., walls, ceilings, windows). A tight seal will reduce both your heating bill and draftiness.

To ensure the highest level of airtightness, the building must have an air barrier that prevents warm indoor air from escaping outside. This will keep the inside of the building warm and comfortable. The air barrier also prevents fresh outside air from entering the building, thus preventing drafts.

An air barrier is composed of a series of materials that ensure a continuous air barrier—the plastic membrane behind the drywall, the sealants around window frames and dampers over exhaust air vents, for example. If you do work that requires you to perforate the air barrier (e.g.,

adding electrical outlets, recessed lighting, etc.), you must patch holes to ensure that the air barrier remains continuous.

Tip

When the time comes to replace your windows or renovate your home, make sure that you maintain the continuity of the air barrier and vapour barrier membranes.

Also make sure that the windows are installed so that the glass surface (thermos) is located in the insulated part of the wall.

Insulation on structural elements and under the concrete flooring in the basement

Insulation must be installed on structural elements and under the concrete flooring in the basement in order to increase the comfort and reduce the heating costs of the home. This insulation plays an even more important role by significantly reducing the formation of mold on the surfaces of drywall panels vis-à-vis the studs and on the concrete flooring.

2.7. Reduce the risk of mold growth and adverse health effects

It would be very surprising if you were to spot traces of mold growth (blackening) on the walls of your Novoclimat home. If you do, don't be alarmed. The presence of condensation or molds is not necessarily an indication of a construction defect or of poor air quality in your home.

Take the time to track down the cause of the mold growth and the rooms where it occurs, and attempt to remedy the situation. Mold generally grows when water condenses on the surface of materials due either to excess humidity or poor air circulation.

First, determine the relative humidity in your home. If it is too high, i.e., over 50%, reduce it by eliminating the causes of the excess humidity, or use a dehumidifier. A number of examples are given in Section 3.

Tip

If the problem persists, we recommend that you talk to your building contractor or a specialist.

Then, improve the air circulation. This will prevent warm, humid air from cooling down on the surface of the wall and condensing. For example, in the entryway closet, long coats and boots prevent warm air from circulating over the outside-facing wall. Humidity may condense on the wall and mold may grow (blackening). Just leaving enough space against the wall to allow warm air to circulate over the outside-facing wall will prevent condensation from forming on the closet wall (also see Section 4.3).

A thorough cleaning with soapy water will eliminate the mold. Avoid using ammonia-based products because the odour is very strong.

3. The secrets for good quality indoor air

Controlling humidity and reducing air pollutants is key to achieving and maintaining a healthy indoor environment and enhancing your comfort.

3.1. What you can do to maintain good quality air in your home

Reduce or eliminate sources of humidity and pollutants

Reducing "polluting" activities and the use of products that have adverse effects on air quality are most certainly the first and most effective strategies for improving the quality of the air in your home.

Whenever possible, store paint cans and other chemical products outside the home, such as in a garden shed.

Avoid using solvents that could contaminate the air inside the home. Most construction material manufacturers put considerable effort into offering healthy products that have less impact on the air quality of the home and on the environment. If you undertake renovations in your Novoclimat home, pay careful attention to this aspect when choosing materials. For example, using water-based paints or varnishes will reduce the release of contaminants into the air.

Directly vent humidity and pollutants outside

It is essential to install a direct-exhaust vent in rooms where humidity and pollutants are generated. Range hoods and dryer vents must evacuate hot, humid air that may be contaminated with cooking fat or lint directly outside the home.

We do not recommend attempting to recover dryer heat by venting this air into your home, even using a heat recovery device, because the air is stale and will adversely affect the quality of the ambient air.

Tip

Make sure the dryer is well connected to the wall-mounted vent.

In order for the dryer to adequately vent humidity, heat and lint directly outside, make sure that the filter is always clean, that the dryer ducting is not too long, crushed or obstructed (squeezed behind the dryer, for instance) and that the vent to the outside is not blocked. If these requirements are not met, contaminants will remain inside your home. These aspects should be verified once a year or more often if you use your dryer a lot.

Make sure ventilation is adequate and efficient

The goal of ventilation is to reduce pollutants in the air to a level that is acceptable to the people living in the home. Ideally, ventilation can meet this goal at the lowest cost possible without causing discomfort. Novoclimat certification ensures that this goal is met due to its stringent ventilation requirements. In addition, ventilation must distribute fresh air in the main rooms of the home and vent stale air directly outside.

3.2. Kitchen ventilation

If no precautions are taken, even normal use of a kitchen can contribute to polluting the air of a home. Cooking food can add heat, humidity, fat particles and odour to the air in the kitchen. In addition, many cleaning products that we store in the kitchen can spread pollutants in the air of the kitchen.

Tip

If you are making improvements to the kitchen in your Novoclimat home and decide to replace the range hood, make sure that the exhaust capacity of the new range hood does not exceed 500 cfm (cubic feet per minute.

Regular use of a range hood will prevent water vapour, smoke, fat particles and heat produced by cooking from getting into the air. You must turn the range hood on before beginning to cook. This will create negative pressure that will vent smoke to the outside from the very start.

3.3. Air exchanger, HRV, ERV: which is best?

Novoclimat homes are ventilated with an air exchanger, which is generally installed in the mechanical room. Air exchangers consist of a box or chassis in which the air ducts are connected to each other.

The principle is simple: the air exchanger evacuates a certain quantity of “stale” air from the home, exchanging it for an equivalent volume of “fresh” air from the outside. Since the exchange of air occurs in the same apparatus, a recovery core makes it possible to transfer heat between the two airflows. This is why we use the term heat recovery ventilator (HRV). In certain air exchangers, the recovery core can also transfer humidity between the two airstreams. This type of apparatus is called an energy recovery ventilator (ERV). In the remainder of the document, the term air exchanger will be used to refer to both HRVs and ERVs.

When it is properly installed, an air exchanger and its network of ducts provide adequate ventilation while reducing ventilation-related heating costs.

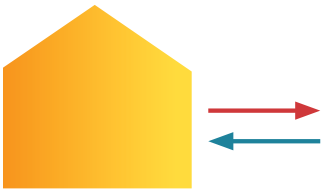
3.4. Air circulation throughout your home

Air exchangers and their networks of ducts distribute fresh air to bedrooms, the living room and the basement while venting stale, warm, humid air from the home. The stale air is vented through extract grilles at the top of the walls or on the ceiling of the bathrooms. To ensure that the air can circulate freely from the bedrooms to the bathrooms, the spaces at the bottom of the doors to these rooms should never be obstructed.

3.5. Ventilation modes of air exchangers

Air exchangers offer a choice of the following ventilation modes: “air exchange with the outside” mode and “recirculation” mode.

Air exchange with the outside



When the air exchanger is operating in the “air exchange with the outside” mode, it is important that the airflow rates of the exchanger be balanced, that is, that the volume of air vented from the home is replaced by the same volume of fresh air. If there is an excessive imbalance (more than 10%) between the airflow rates, this will lead to a positive or negative pressure in the home that, over the long term, could compromise the building envelope or cause back drafting of combustion appliances.

Air exchangers can generally be operated at two speeds: low or high. You can use the main control or the controls in the bathrooms to change speeds (see Section 3.6).

Recirculation

When the air exchanger is operating in “recirculation” mode, fans should not be used in the home. In addition, if this ventilation mode is used, there is no exchange of inside and outside air..

The “recirculation” mode provides for better distribution of humidity by diluting air vapour in the entire volume of air of the home. This helps to ensure that the relative humidity is the same in all the rooms of the home.

3.6. Air exchanger controls

Main control

The main control is located near the living room. It can be used to turn on the “air exchange with the outside” mode or the “recirculation” mode or, with some units, a combination of the two modes. Refer to the operating manual of the control for instructions on how to turn on these modes.

The Novoclimat program only applies to the “intermittent” mode (low speed). This means that, over a 60-minute period, the air exchanger operates in “recirculation” mode for 40 minutes and in “air exchange with the outside” (high speed) mode for the remaining 20 minutes. This “intermittent” mode is ideal when the home is not occupied during the day.

Another program requirement is a hygrometer (instrument to measure the relative humidity of the air) integrated into the main control. The hygrometer activates the “air exchange with the outside” (high speed) mode as soon as the relative humidity of the air in the home exceeds the programmed level. In winter, in spring and in the fall, this operating mode, which is automatically regulated, reduces the risk of excessive levels of relative humidity in the home.

To maximize the comfort of your Novoclimat home, we recommend that you operate the air exchanger using the “intermittent” mode and regulate the hygrometer to approximately 50% relative humidity.

The main control also allows you to stop the air exchanger. Controls from certain manufacturers allow you to use the bathroom control to start up the air exchanger again, even if you used the main control to turn it off.

Controls in the bathrooms

Timer controls in the bathrooms allow you to put the air exchanger in “air exchange with the outside” (high speed) mode in order to evacuate excess humidity in the bathrooms.

Whether you use an air exchanger or an autonomous exhaust fan for ventilation, you should let it operate at high speed for up to 20 minutes after taking a shower or bath.

The contractor may have installed an autonomous exhaust fan as well as an air exchanger grille in your bathroom. If so, you should use the air exchanger during the winter because the exhaust air contains a lot of heat than can be recovered.

3.7. Do not try to adjust the balancing registers (dampers) of the ventilation network

When the air exchanger was installed, the main intake and exhaust airflows for each grille were carefully calibrated to ensure an adequate airflow to the bedrooms and living room and an adequate exhaust airflow in the bathrooms. As such, if you wish to maximize the performance of the air exchanger and the comfort of your home, you should not try to adjust the balancing registers (dampers) of the ventilation network.

Balancing registers are installed on the air exchanger and throughout the ducting network to ensure the proper distribution and balancing of the airflows. A handle (on the outside of the register) on the duct is used to close or open the register and increase or decrease the airflow inside the ducts. The angle of the handle corresponds to the degree to which the register is open, and is critical for ensuring the proper airflow to the rooms. This is why the angle must not be changed. You must not modify the balance (angle of the register) of your air exchanger. If you find that the airflow is too high or that the system is too noisy, please contact your general contractor or the ventilation specialist who installed and balanced your ventilation system.

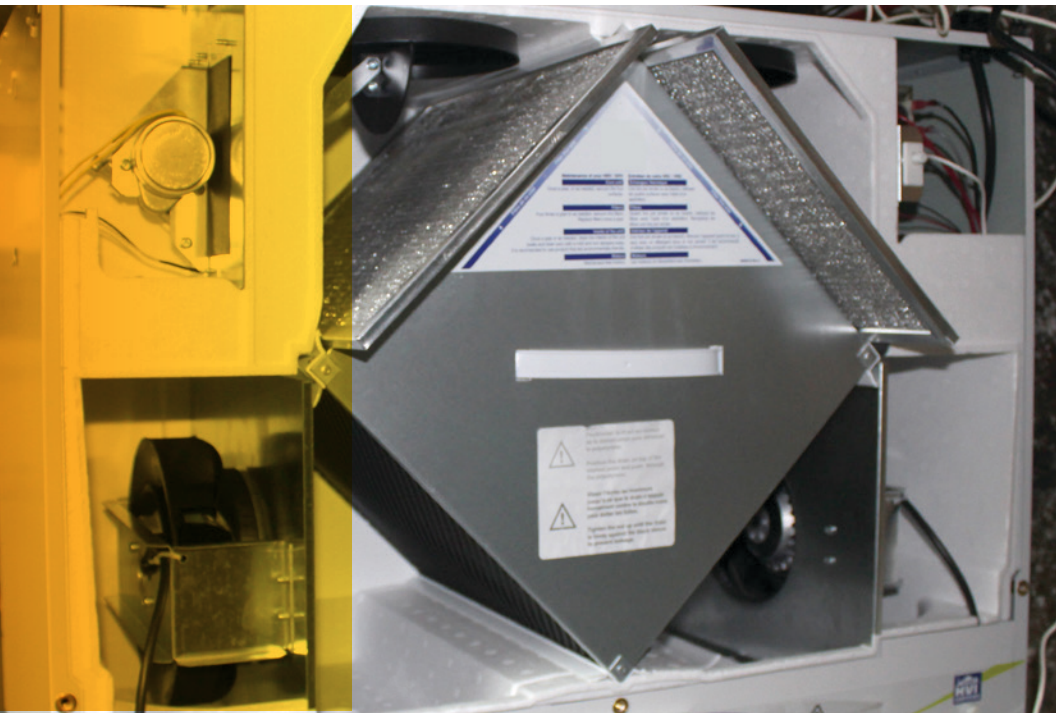
3.8. Maintenance of the air exchanger

Clean the filters and heat transfer core regularly

The air flowing through the air exchanger is laden with a large amount of dust from both inside and outside the home. To prevent this dust from accumulating on the heat transfer core and reducing its efficiency, both air exchanger air intakes are protected by filters. The filters, which are located in the air exchanger chassis, get dirty fairly quickly and must be cleaned, according to the manufacturer's recommendations, approximately every three months.

Dust passing through the filters sticks to condensation on the plates of the heat transfer core. Over time, the dust that accumulates on the plates reduces the efficiency of the heat transfer core and the ventilation airflow. The heat transfer core must thus be checked each time you clean the filters and, as needed, cleaned according to the manufacturer's recommendations at least very six months.

Maintenance frequency varies depending on how the air exchanger is used and the amount of dust in the inside and outside air of the home. For example, if you do landscaping work around your home, your air exchanger will get dirty more quickly.



Clean the inside of the chassis and the air exchanger drain

Over time, condensation forms on the heat transfer core in most air exchangers. This condensation trickles toward the drain pan and the condensate drain. The condensation that accumulates in the drain pan and the condensate drain itself must be evacuated to prevent the growth of molds and fungi.

The condensate drain must be connected to the floor drain or indirectly to a plumbing drain. An S-trap containing water prevents odours and humidity from the plumbing drain from being aspirated into the air exchanger and being distributed throughout the home. Make sure that the S-trap on the condensate drain always contains a small amount of clean water.

Clean the filters of the inside grilles of the home

If there is an air exchanger intake grille in the kitchen or a workshop, it is likely that a filter was also installed at these locations. These filters must also be cleaned regularly.

Clean the outside grilles of the home

Clean the outside air intake and exhaust vents of the air exchanger once a year.

3.9. Special safety measures

For safety's sake, the Gouvernement du Québec requires the Novoclimat contractor to put in place special safety measures.

Wood stove and high-capacity range hood

With solid fuel-fired appliances like a slow-burning wood stove or an open fireplace, there is a risk of combustion gases and smoke getting into the home.

Generally speaking, this type of appliance is equipped with doors that are more or less airtight, an outside air intake that brings air to the combustion chamber (hearth) to facilitate combustion and a chimney that evacuates smoke and combustion gases to the outside. These appliances are designed to operate safely. When they are used, closing the doors will reduce the volume of air drawn from inside the home to a minimum. The suction (draw) of the chimney will be sufficient to exhaust the gases to the outside.

When they are used, range hoods, bathroom exhaust fans and clothes dryers vent a lot of air outside the home. This stale air is generally replaced by fresh outside air via air leakages. Outside air may also enter by the chimney and the combustion air duct and spread smoke and combustion gases throughout the home.

In the interest of safety and to prevent smoke and combustion gases from coming back into the home, if you installed a wood heat appliance in a Novoclimat home, we recommend that you reduce the use of these air extractors to a minimum.

4. Frequently Asked Questions

4.1. Novoclimat certification

Does a Novoclimat-certified home remain certified even after renovation work is done?

YES. Novoclimat certification is a declaration of conformity of the new building as of the completion date of its construction. If renovations or additions are made to a Novoclimat-certified building or the Novoclimat-certified building is damaged, the owner can continue to maintain that the building was **originally** built and certified according to Novoclimat requirements.

On the other hand, depending on the work done and the nature of the modifications, an owner who wishes to ensure that the building has an energy performance equal or superior to current Novoclimat requirements must ensure that the renovations or additions meet the special technical requirements of the program. An energy evaluation by a recognized company (at your expense) will ensure that the work complies with the program requirements.

4.2. Comfort of the home

Is it worthwhile programming our thermostats to lower the temperature at night or when we are away from home?

YES. This will save energy and money without compromising your comfort. On the other hand, for a Novoclimat home, there is no advantage to programming a lower temperature for periods of two hours or less.

Temperature differences between the time you are in the home and when you are absent, or at night, can be up to 3°C.

What is the ideal temperature to maintain in the home?

In cool or cold weather, the ideal temperature depends on your own comfort, your heating system and the location of the thermostat. The thermostat should be set somewhere between 19°C and 21°C.

During the summer, in an air-conditioned home, the thermostat should be set somewhere between 22°C and 25°C.

4.3. Relative humidity

What is the ideal level of relative humidity to maintain in the home?

The optimal comfort zone for your health is between 40% and 50% relative humidity. However, it is normal that the home is not always in this zone due to activities that produce humidity, such as those in the kitchen and bathrooms.

In summer, when the days are hot and humid, the relative humidity in the home may exceed the normal comfort zone. On these days, the air exchanger cannot lower the level of humidity in the home.

In winter, when the relative humidity is not in the optimal zone of 40% to 50%, Québec's climate is such that the lower limit drops to 30%, which is deemed acceptable. Once again, it is possible that the relative humidity drops below 30% because the outside air during very cold days is very dry.

Air exchanger manufacturers recommend lowering the level of relative humidity in the home based on the outside temperature in winter. Are they right?

In winter, the higher the level of relative humidity in the home, the more condensation forms on the windows. This is normal. Manufacturers give recommendations that apply to all homes, whether new or old, in which their air exchangers are installed. They wish to avoid the formation of excessive condensation on windows during very cold days. Since they cannot choose the type of window and the quality of the installation of their air exchangers, they recommend a relatively low level of relative humidity for a standard window quality.

The air in my home is too dry. What should I do?

If the air of your home becomes too dry, we suggest that you check the main control of the air exchanger. Make sure that the operating mode is set at "intermittent" and that the hygrometer is set at 40% to 50% relative humidity.

If the problem persists, consult your ventilation specialist. You may have to lower the air exchange rate. In extreme cases, you may have to use a humidifier.

The air in my home is too humid. What should I do?

If the air of your home becomes too humid, we suggest that you check the main control of the air exchanger. Make sure that the operating mode is set at “intermittent” and that the hygrometer is set at 40% to 50% relative humidity. Check for major sources of humidity in the home: water leaks, firewood in the basement, dryer duct disconnected, etc.

If the problem persists, consult your ventilation specialist. You may have to increase the air exchange rate. In extreme cases, you may have to use a dehumidifier.

There is condensation or frost on the door, the patio door, or on the inside of the windows. Why?

When the level of relative humidity increases and the outside temperature drops, the risk of condensation forming on glazing increases. If this occurs, you should wipe off the condensation to prevent the growth of mold.

The flooring boards are separating. Why?

A number of reasons can explain this phenomenon. We recommend that you check the level of relative humidity in your home. The air in your home is probably too dry. Check to make sure that your air exchanger is not operating in “air exchange with the outside” (high speed) mode when the air outside is cold and dry. In these conditions, your air exchanger should be operated in “intermittent” mode.

Frequent use of a fireplace may also dry out the indoor air excessively.

4.4. Ventilation

Does the air exchanger have to operate all the time, even in summer? If I turn off the air exchanger during the summer, will the air quality in the home suffer?

In summer, we recommend that you turn off the air exchanger. Ventilation in “air exchange with the outside” (high speed) mode will bring heat, humidity and pollen into the home. If you use an air conditioner, the air exchanger should be operated in “intermittent” mode.

Does the air exchanger require maintenance?

YES. Several parts of the air exchanger must be maintained regularly. It is especially important to clean the filters and the heat exchange core. Also make sure that the outside grilles and lint filters of the inside grilles are kept clean. For more information, see the "Maintenance of the air exchanger" section and the manufacturer's manual.

How can I adjust the air exchanger?

See the "5. Air exchanger user guide" section.

4.5. Main heating

My electricity bill is higher in my Novoclimat home. Why?

It is difficult to compare the costs for two homes that are not identical. Several home components influence energy use: household appliances, heating and ventilation appliances, pool heater, the number and dimensions of the windows, the orientation of the home, its dimensions, its air volume, your lifestyle, etc.

When should I clean the filters of a forced-air furnace?

The filters must be cleaned every month, depending on the amount of dust in your home.

When should I have the heating ducts cleaned?

See the "2.4 Clean the ducts of the forced-air heating network" section.

4.6. Supplementary heating

What should I do if there is a back-draft of smoke?

Make sure that the chimney trap is open. Then, make sure that the outside air intake of the fireplace is not obstructed. Normally, wood stoves and fireplaces should only be used with the doors of these heating appliances closed, which partially prevents back-drafts.

Also, check to see if air extraction appliances (range hood, dryer, bathroom fan, etc.) are turned on when you use a wood stove or fireplace. If they are, turn them off. If the problem persists, contact your ventilation specialist.

4.7. Renovations

Can I renovate my Novoclimat home?

Of course! However, for major work we suggest that you contact a Novoclimat-certified contractor. Certain major work such as the addition of rooms, extensions, the replacement of doors and windows and the replacement of heating equipment may alter the performance of your Novoclimat home.

Can I change the range hood for a more powerful model?

YES. But it must not exceed 500 cfm of ventilation power since this can decrease the comfort of the home and, in certain cases, cause smoke to backdraft into the home.

During renovation work, can I have a wood stove or fireplace installed?

YES. But these heating appliance must have a combustion-air intake (outside air) with a closing mechanism that prevents air from entering when the appliance is not being used. These requirements will decrease the risk of smoke back drafts from the wood stove or fireplace.

In addition, in order to decrease atmospheric emissions and their impact on the environment, you should choose a combustion appliance that complies with the technical requirements of the Novoclimat program.

5. Air exchanger user guide

Winter: heating period

The main operating mode should be “intermittent” (low speed).”

The hygrometer inside the main control of the air exchanger is set at 50%. When the device detects a too high level of relative humidity, the control starts the “air exchange with the outside” (high speed) mode to quickly bring down the level of relative humidity to the programmed value. As soon as this value is reached, the air exchanger returns to the “intermittent” (low speed) mode.

When the bathroom is occupied, a push button with a timer can be used to switch the air exchanger to the “air exchange with the outside” (high speed) mode.

Summer (without air conditioning)

The air exchanger should not be used in summer, except when the bathroom is being used.

In homes where the basement is too humid, it should be lightly heated and the air exchanger (or the forced-air heating system) should be used in “recirculation” mode. If the problem persists, a dehumidifier can be the least costly long-term option and the most effective at removing humidity.

Summer (with air conditioning)

If you use an air conditioner, you should operate the air exchanger in “intermittent” mode.

Why?
Ensures adequate air quality and reduces air exchanges with the outside to a minimum. Helps reduce cooling of the home, discomfort and heating costs.
Helps properly control the level of relative humidity while, at the same, reducing to a minimum the period in which air is exchanged with the outside.
Evacuates humid air from the bathroom directly outside.

Why?
Lets hot humid air laden with pollen into the home.
Helps evacuate basement humidity.

Why?
Draws fresh air into the home when the windows are closed.

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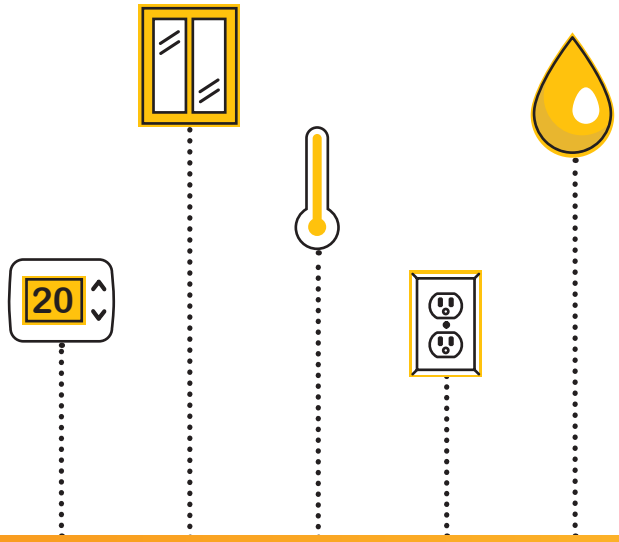
1-866-266-0008



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