



## Air Conditioning Your Home Efficiently

People react differently to different temperatures and humidity levels. Generally we are comfortable during the summer with an indoor temperature between 23° and 25°C (73° and 77°F) with a humidity level between 35 and 60%.

In order to select an appropriate air conditioner you must be sure that you know the size of the area that is to be cooled.

Approximately 75% of the space that needs to be cooled comes from external sources. Some of the external sources include sun shining on the windows, glass doors, skylights, walls and roof, as well as the outside temperature. Be sure to reduce as many of the external factors as possible before determining your cooling space. This will hopefully allow you to purchase a smaller air-conditioner and save money overall.



### Some methods of reducing heat in your home:

-Reduce the amount of heat gained through glass by installing shades such as awnings or screens to the exterior. You may also choose to install shades in the interior of the home which also works but is less effective than exterior shades.



-In order to reduce heat in an attic you should install a thermostatically controlled fan. It will exhaust the warm air and lower the temperature of the attic.

-If you are building a new home determine which direction your house should be facing in order to limit the amount of exterior heat.





## Individual Room Air-Conditioners

The benefit of a room air-conditioner is that you are able to control each room individually. This type of air-conditioner works well for people with small houses and only a little amount of cooling needed. These conditioners can be mounted in a window or an opening in the wall. It is important to operate your air-conditioner before purchasing it. Some are much louder than other models. You should ensure that it has a two-speed fan, deflector blades to direct the air stream, and a fresh air switch to allow a certain amount of outdoor air into the room in order to properly ventilate. The filters should be easy to access in order to clean or replace them if necessary. If the air-conditioner is a wall-mounted model, you must ensure that side vents, if any, are not blocked by wall thickness. Room air-conditioners with 3.5 kW and less are usually plugged into a standard 120-volt outlet. It is important that the wiring is checked to ensure that there is a separate circuit and that it has a surge protector as per manufacturer's requirements.



## Central air-conditioners

Central air-conditioners are quieter than room conditioners and cool the entire house instead of just a single room. Central air-conditioners are available as single packages or as split units. A single package unit is mounted outdoors. A split system unit is when the cooling coil is installed in the plenum of an already existing furnace, the condensing unit is located outdoors with refrigerant tubing connecting the two parts.

## Energy efficient Ratings for conditioning units

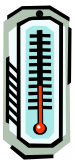
The most common method of measuring an air-conditioner is the Seasonal Energy Efficiency Ratio (SEER). SEER compares the cooling output of the unit with the amount of energy consumed over the season. The higher the SEER rating the higher the efficiency level. New central air-conditioners currently range from 10.0 to 17.0. Room air-conditioners range from a SEER rating of 8.0 to 12.0. When purchasing an air-conditioner, keep in mind that the minimum requirement for Ontario is a SEER rating of 10.00.





### Controlling your temperature

There are many different kinds of thermostats with many different options. You have the option of purchasing a low-voltage heating/cooling thermostat but be sure to check its accuracy regularly. There are also programmable electronic thermostats, which provide automatic temperature adjustment at many different settings every day of the week. You should make sure that you choose a thermostat that doesn't lose its program during a power failure (see "thermostats that work for you", for more detailed information).



### Maintaining your equipment

There are many ways to keep your air-conditioner in good working order. When the warmer climates are around and your air-conditioner is being used frequently, so be sure to replace or clean the media filters every three months. Clean the blower once a year and lubricate the motor and fan bearings at least twice a year. Inspect the fan belts every year and replace them if they are glazed or cracked, while ensuring that the belt maintains good tension. The outdoor condensing unit should be cleaned annually to clean out the debris and maintain a good airflow. Also, if the fins on the coil are bent, straighten them so the coil can transport the heat for outdoor efficiency. Make sure to check the condensate drainage pan under the evaporator coil and unplug the drain if necessary. If the drain is clogged the condensate will overflow and drip on the furnace heat exchanger and corrode it. By maintaining your equipment you are lengthening the life of your air-conditioner and ensuring that it is working at a high level of efficiency.

