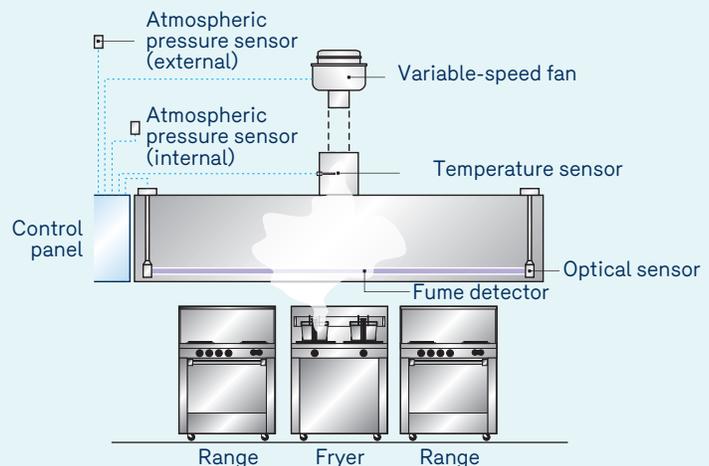


# Variable speed hoods

## Concept

Hoods are used to remove contaminated air from an installation. Removing these contaminated products and vapours means that make-up air is required in order to maintain indoor air pressure. The fresh air brought in to replace the vented air has to be warmed in winter. Generally, hoods are designed to vent air at a constant rate, that is, they operate at just one speed, that of full production. Since full production may, in some cases, only be needed several hours a day, large quantities of air are being vented needlessly. This entails costs and high energy losses.

The control system of a variable-speed hood has a special feature: it vents only the quantity of air necessary to remove contaminants and thus saves on heating fresh air. A variable speed fan is required to modify a traditional hood. Coupled with electronic readers and sensors, the fan can adjust the flow of air to be vented based on the parameters chosen (concentration of solid particles, dust, fumes, temperature, air flow pressure, etc.)



## Advantages

- Energy savings can attain 35%, depending on the application\*.
- Improves comfort for building occupants, particularly in restaurants where a hood's high exhaust rate reduces indoor pressure, resulting in doors that are difficult to open and cold air currents around the perimeter.
- Ensures a cleaner atmosphere at all times for occupants. Variable-speed hoods start up automatically on the slightest detection and the speed increases when there is a heavy production of contaminants.
- Remote control and management integrated into the IT system. Hood operation can be monitored and improved, as needed.

## Applications

- Restaurants
- Hotels
- Industries
- Schools and universities
- Supermarkets
- Laboratories

## List of manufacturers

There are two ways of making the modifications required to install a variable-speed hood: modify the present installation or replace the equipment.

Some specialized firms offer analysis, design and implementation services for your variable speed hood project. A list is available on the Énergir Internet site.

Here is a non-exhaustive list of distributors of variable speed hoods:

- |               |                                    |                         |
|---------------|------------------------------------|-------------------------|
| • Cadexair    | • EnviroAir                        | • Les Contrôles ISOBARE |
| • CaptiveAire | • Équipements Alimentaires AP Inc. | • Noveo                 |
| • Eco Hottes  | • Intellinox                       | • ProVent HCE           |
| • ÉNERGÈRE    |                                    |                         |

## Selection criteria

- The building's vocation.
- Heating, ventilation and air-conditioning (HVAC) needs.
- Ability to handle equipment controls.
- Desired range of air flow rate vented by ventilator.

## Installation standards

- A natural gas make-up air unit added to a variable-speed hood must comply with the CAN/CSA-B149.1 code in force.
- National Building Code (NBC)
- Québec Electrical Code (QEC)

## Energy Efficiency grant\*\*

### Variable speed hoods for kitchens

Receive a fixed amount of \$3,350, plus a variable amount of \$0.45 per CFM (cubic feet/minute) based on the venting system. To benefit from the grant, you must:

- Be an Énergir customer or about to become one
- Be the owner or services manager of restaurants or cafeterias
- The kitchen must be in an existing building and have an air-compensation system heated by a roof unit or by a natural gas make-up air unit to keep the pressure balance in the building.

Note: New constructions are not eligible for this program from January 1, 2022\*\*\*.

Consult the list of eligible products on our [Internet site](#).

### Variable flow ventilation for process applications

Measures for variable flow ventilation that cover process applications are eligible under our Studies & Implementation Grant.

To learn more consult our [Internet site](#).

.....

\* Savings vary depending on the different parameters.

\*\* Parameters specific to the assistance. Payment of the financial assistance may not be interpreted as a guarantee to the customer as to the quality of the variable speed hood, the control system or the venting system, or as any other approval of their compliance, performance or safety; such responsibility is incumbent on the manufacturer, seller and installer of the products. Applications for processes are not eligible for this assistance.

\*\*\* Excepting new buildings not covered by Division B, part 8, of the National Energy Code for Buildings – Canada 2015 – integrating amendments from Quebec (NECB 2015-Qc) Exceptional cases must be submitted in advance to Énergir for approval.

These data are provided for guidance only. This Information Sheet is for general use and must not be considered advice. Please ask for assistance on the questions that concern you and do not rely only on the text in this Information Sheet.

Last updated December, 2021.  
MKTG.01-2022.9781 Colpron