

COLUMN FOR DECEMBER 17, 2005.

## HEADLINE; ONE-PACKAGE HEATING-VENTILATION SYSTEMS

*Q; We are have bought a home built in the 70's that has been neglected. We intend to gut the house and completely renovate it. We are limited in space though and would like to modernize the heating system as well as add air conditioning and improve the indoor air.  
Any suggestions as to a compact system?*

A: Over the past few years the Canadian Government has been working with a number of private HVAC companies to develop an all in one home heating-ventilation-hot water-air conditioning system. The program is called Ekocomfort and it is worth looking into if you having a new home built or a complete renovation such as our reader is contemplating.

These advanced integrated mechanical systems are truly amazing. They start with a heating system that includes an advanced circulating fan, motor and control. These greatly reduce the electrical operating costs. The entire system operates off one fan, unlike most homes today, which have a fan for the furnace, one for the HRV and in some cases a direct vent fan if you are using a gas hot water heater. The heat recovery ventilation unit is also part of this one cabinet system. Indoor air quality has become an important factor in homes today as we attempt to improve their energy efficiency. A hot water boiler that also doubles as the hot water supply for the home generates the actual heat. One manufacturer states that this will be similar to the instant on hot water units that are gaining in popularity. The system allows for add-on of air conditioning and some are adaptable to operate Radiant in-floor heating.

The real benefits are simple; it is a one-package system, one warranty and one installation. They are compact; they take the place of your hot water tank, your HRV cabinet and furnace into one unit. Operational costs are expect to drop considerably as most of these units operate with high tech fans, controls and efficiencies in the overall simplification of the system. Savings are expected in the installation costs due to the one only hook-up of gas, electricity and ductwork. Cost of annual service should be reduced with the system integrated and diagnostic indicators allowing for immediate access as to where the breakdown is located. With a one-filter system that can be maintained by the homeowner, it will reduce filter costs and replacements. These systems have been developed to comply with building code requirements, especially ventilation in a new home.

They are not cheap, however when you consider the cost of three or four individual installations for your furnace, hot water tank and HRV the costs become closer. There are a number of Canadian Companies involved in this program. Kerr Heating in Nova Scotia has been around since 1976 producing oil, gas and wood fired furnaces and boilers. They are working on an oil fired unit with add on modules for air conditioning and air sterilization. Vebteck Research in Markham Ontario is a consortium of companies that is working on a final product that will be the result of input from Nutech and Fleetline. Ecologix is located in Cambridge Ontario and they are also a modular system with a unique silent duct system. Tirino Corporation of Concord Ontario is already producing their unit, called the Genesis. I had the opportunity to go thru the specs on this unit and I was impressed. It operates on a gas boiler at close to 88% efficiency. There are gas boilers on the market that are more efficient, but when you couple everything together the operational savings are considerable.

This initial program was started about five years ago and was funded by Natural Resources Canada. The aim was to make one appliance that combines heating, hot water and ventilation. One report I saw stated that they expect these systems to be installed in nearly 25% of Canadian Homes by 2020. If any reader would like more information on these systems, send me an e-mail.

The answer to last week's question was B) Nosing is the rounded edge of a stair or windowsill. This week I ask, "What is an apron? Is it A) a moulding below the stool of a window. B) An extension of the concrete floor of a garage beyond the face of the building C) a method of non-bearing framework used to hold insulation installed around a single wide residential trailer. The answer in next week's column.

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