



# INDOOR AIR QUALITY

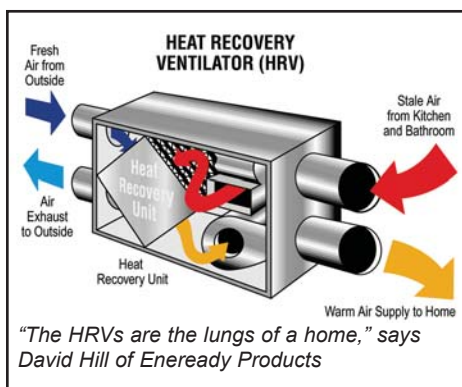
## The Reality

Let's face it. Every home has its unmentionables.

The back closet where you hide those dreadful, oversized sweaters Aunt Mary sends every year for Christmas, the secret stash of Harlequin Romance novels, the gardening tools for when you finally take your place as a certified green thumb.

"Out of sight, out of mind" is the philosophy, and it works great - for sweaters and shovels. But when it comes to ventilation, "out of sight, out of mind" may well be playing havoc with your family's health, not to mention sending out an open invitation to some very unsavoury guests including mildew, fungus, spores, and mites.

"Historically, ventilation has been ignored in North American housing," says David Hill, president of Eneready Products in Burnaby. Partially attributed to the fact we enjoy lower heating costs, larger homes, and better insulation than our European counterparts, partially as a result of our mild, damp climate, and partially because ventilation isn't seen therefore isn't considered as sexy as shiny hardwoods or appliances - yes Virginia, it's still true that sex sells - our indoor air supply has been largely ignored by builders and consumers alike.



But with 20% of North Americans now suffering from some form of respiratory problem and ever more Boomers slipping into the age bracket where health issues suddenly gain major significance, Hill sees new consumer trends emerging. "As a public speaker today, people ask me how to solve their specific problems," he says. "Until very recently, if they asked anything at all they would ask technical questions -

how much does it cost, how does a mechanism function, what will it do for me?"

### Let the Fresh Air In

As living, breathing beings, we require fresh air - some 54 pounds of it passing through our lungs each and every day. However, as our homes become better insulated and more tightly sealed against inclement weather, the indoor air quality of our homes is deteriorating. Moisture, odours, carbon dioxide, and dust accumulate simply because there is no naturally occurring air flow to move them outside.

With the introduction of the new British Columbia Building Code (BCBC) in 1998, builders were required to provide at least a rudimentary ventilation system. However, today's savvy buyers are looking for a whole house approach to ventilation - and, they're getting it. Stale air isn't simply blown outside via an exhaust fan, it's replaced with fresh air. "A good system can be considered the lungs of the house," Hill says.

### HRVS for Health

Like breathing, ventilation must be continuous to be effective. We do, after all, continue to exhale carbon dioxide and sweat while we're asleep, and those nasty dustmaker gremlins never seem to sleep at all.

In the Home with a Difference, as well as increasing numbers of other residences, Heat Recovery Ventilation Systems (HRV's) provide the answer and are considered the ultimate ventilation system currently available.

In addition to 24/7 fresh air intake combined with exhausting of stale interior air, HRV's incorporate a heat exchange system to pre-warm air drawn from outside using the very warmth from the air it's expelling. "It's the same principle as your car," Hill says. "The engine generates heat which is transferred to the water in your radiator. As cool air flows over the radiator, it takes that heat away which is why it costs nothing to heat your car - that hot air is going to be there anyway."

Preheating a home's fresh air supply is important for a number of factors, not the least of which is comfort. But it goes far beyond. Fresh, cool air, introduced to a room, will sink to the floor where it will discomfort your lower legs and where it will do little or nothing to improve (or exchange) the air in our breathing zone.

Pre-warmed fresh air is distributed via a number of small hidden sealed sheet metal ducts to each bedroom and living areas. This helps eliminate dampness, musty smells plus, you guessed it, moulds and mildews.

Ironically, Hill notes that while the Federal Housing Authority has at last begun to acknowledge the importance of ventilation in our homes, the auto industry has done so for many years. "Back in the 1950s, you had to open a window before you could close the door of your Volkswagen Beetle," Hill says. "That's how air tight they were. They also had a major condensation problem because of it. Whether you're aware of it or not, all cars are now continually ventilated - so why aren't we doing the same thing in all our housing?"

### The Bottom Line

Prices, according to most industry experts, start at approximately \$500 - \$800 for a simple ventilation system which fulfills the minimum BCBC requirements. For your money, you'll receive a non-continuous, non-distributed system which translates into bathroom fans, a kitchen hood fan, and likely not much else.

For a continuous system, prices typically increase from a starting point of \$1,500 although Hill says 6,000 square foot mega-houses will easily incur costs of \$8,000 or more. He quickly points out that, in reality, this is just over \$1 per square foot on a home that's probably costing a minimum of \$120 per square foot to build - a small investment for improved health.



By Susan Boyce