

## The Gift of Health From Mechanical Ventilation

Mechanical ventilation is the intentional exchange of air between the outside and inside air, versus the random and uncontrolled air exchange of leaky buildings. There are two main reasons to ventilate; the first is to provide clean and fresh air for the occupants. The second is to dilute moisture and reduce indoor pollutants. Indoor air quality is generally many times worse than outdoor air quality. The list of indoor contaminants is long; they include everything from cleaners, dust, dander, mold, carbon monoxide, cosmetics and building materials, to most modern products. Air quality that affects one person may not affect another. Most health symptoms caused by bad indoor air quality develop after long-term exposure, although children, the elderly, and persons with pre-existing conditions may be affected much sooner.

Relying on air infiltration from leaky construction methods to solve indoor air quality is, at best, risky. The vast majority of building and material failures are caused by moisture movement through the building envelope - which is a result of leaks in the structure. The importance of tight construction goes far beyond energy conservation. Health and durability are the principal concerns with respect to this issue. While a "loose" house may breathe to varying degrees, they are drafty, uncomfortable, consume too much energy, and create an environment in which mold and other undesirable creatures may thrive. A ventilation system should be as reliable as our own lungs. It needs to function optimally at all times. While a leaky home may offer plenty of air infiltration when the conditions are right, the air is seldom entering the building where it is needed most. The uncontrolled air infiltration may not be the air you are breathing, but is most likely the air that is making the walls and the floors cold. It is this uncontrolled air infiltration that is increasing your energy bills. With a tight house and a mechanical air exchange system, you can adjust the air exchange to an optimal level of fresh air as needed for the building.

