*Let's face it.* Today's modern homes constructed to the current Ontario Building Code, or better, are basically giant plastic bags. Maintaining fresh air on a continuous basis becomes extremely important. That is why we provide our homeowners with two sources of fresh air, windows that open and a fresh air machine that we install. While we suggest to homeowners to open their windows whenever they wish, it is imperative to remember to run the ERV on "Smart Mode" whenever the windows are closed. This enables homeowners to control the flow of fresh air into their home all year round.

However, this "Giant Plastic Bag" also results in the need to manage humidity levels far more than an old leaky home. We are now more concerned with too much humidity in the home, rather than the home being too dry. Understanding what is happening and having good strategies for dealing with household humidity is essential to your home's performance.

Look for part 2 in our Understanding Humidity series tomorrow!



**DOU** TARR

*Controlling your Mechanical System? Like driving your car!* We commonly describe to our customers that operating their mechanical system is a lot like putting your car in drive, or as we would say "Set it and forget it!" This refers to picking a home temperature and leaving it consistent as well as putting your ERV control on Smart Mode. However, just as you must alter how you drive according to changing weather conditions, it is also important to understand that we must alter how the homes mechanical system is operated based upon weather conditions.

Look for part 3 in our Understanding Humidity series tomorrow!





*Changing Weather!* Another factor impacting our homes is that our weather is becoming more and more unpredictable. It seems like we can go from fall temperatures to the depths of winter in a matter of a few hours. This can play havoc with the humidity levels within your home from one day to the next. When this occurs, the window glass in your home will also get much colder relative to the rest of the home. Under this condition, it can be common to have an excess build up of water vapour on the windows. Should this occur, it is best to wipe up any standing water and then deal with lowering the home's relative humidity to manage the levels and reduce the condensation on the windows.

*Water Condensation on Windows, is it good or bad?* Actually, it can be both. If it is a cold winter's day, a small 1" band of condensation across the bottom of a window, shows that you have humidity present in your home and that would be a good indication if it is a really cold day. However, if that same window has 4-5" of condensation and begins dripping, it is a good indication your humidity levels are too high. One of the greatest benefits of the warm edge spacer between the glass panes is keeping the glass warm enough so that condensation is much less likely to occur. That is also why we are introducing triple glazed windows to our customers.

Look for part 4 in our Understanding Humidity series tomorrow!



*Relative humidity* is a way of describing how much humidity there is in the air, compared to how much there could be. When the temperature is warm, more water vapor can be in the air than when it is cold. If the actual amount of vapour is compared to the total amount there could be, as a fraction, then the resulting number tells if the air feels dry or moist. The value is usually written in percent, where 0% means that the air is totally dry, and 100% means that it is so moist that mist or dew is about to form. When the temperature is lowered a lot, the relative humidity increases and the water vapour can turn into condensation or precipitation, as dew, rain or snow (etc.).

Relative humidity can also vary within the same room. If you were to take a humidity gauge that can be aimed at a surface, you might find that the interior wall of a room is showing 33% relative humidity, while the window surface is much higher, maybe 47% if it is a cold winter day. The colder the outside temperature, the colder the glass temperature. If the surface of the glass gets cold enough it can result in water condensing on the windows.

Look for part 5 in our Understanding Humidity series tomorrow!

*Preventing mold growth in your home* While there are health risks to living in a home that is over dry, that is seldom the circumstance with today's tighter homes, especially when they are using an ERV for ventilation. As previously noted we are more concerned with excess moisture in the home. The Ontario Building Code recognizes that a good range for humidity levels within the home would be between 35-50%, with 35% being more optimal in the winter time and 50% more common in the summer. During an extreme cold snap, the home may need to have the humidity reduced to 30% or even 25% for a few days. During a hot summer heat wave, that humidity level may climb up into the 55% range. That might feel a bit clammy and you may wish to reduce your humidity levels. However, if the home begins to go above 60% relative humidity and stay there then you have conditions for mould and this needs to be avoided all year long. It only takes a few days for mold to begin to grow, so if excess humidity is noted, then it is important for measures to be taken quickly to get the relative humidity back into the normal range.

Look for part 6 in our Understanding Humidity series tomorrow!

*Controlling Humidity using your ERV* A simple, more effective way to reduce your indoor relative humidity levels is to use your ERV. Often times we find that customers are afraid to use their ERV control because they might not be confident in getting to the answer they need. Here are 3 simple steps to control humidity using your ERV that everyone can do.

*First* Select Smart Mode by pushing the "Smart" button on the bottom right of the ERV Platinum control.

*Second* On the ERV Platinum control there is an up arrow and a down arrow. If you press and hold the up arrow for about 8 seconds it will display the relative indoor humidity. If it is higher than it should be, then you know you need to take action.

*Third* Rather than trying to remember how to change the settings on the platinum control, leave the principal ERV control on Smart Mode, and run the bathroom control for an hour or longer. This way it will revert back to the Smart Mode setting without having to change the main control setting. For more ERV tips, check out www.youtube.com/watch?v=RKt\_2NUfRjA

Look for part 7 in our Understanding Humidity series tomorrow!

**DOUG TARRY** CUSTOM HOMES LTD.

*Window Blinds And Coverings* should come with a warning label. 'Improper use of this product may cause moisture to accumulate on the window being covered which may result in mould growth." Ok to be fair, window blinds and coverings serve a number of functions in your home. This can include:

- Blocking solar heat gain so a room does not overheat.
- Blocking the sunlight when it is too bright for the intended function of a room. If the sun's glare is so bad that you cannot see the tv, you may choose to have blinds.
- Curtains can also be used to reduce heat loss and discomfort on a cold winters night.

However, there is one very important rule to remember and follow so that you can enjoy your window coverings safely and without damaging your home. When it gets cold outside at nighttime, you need to either raise or open your window coverings. That's it, it's just that simple. That will allow the air in the room to bath the window and prevent excess moisture buildup on the window because it will keep the window from getting so cold that condensation forms. Following this one simple step will avoid a lot of headaches.

Look for part 8 in our Understanding Humidity series tomorrow!



What does this all mean to you, The Homeowner? It is important to remember that this series is meant to be a guideline. There are multiple variables that could impact on how your home is acting. Items such as size, number of occupants, how the home is used, number and size of the windows, type of home, finished basement & age of the home can all impact upon how it reacts. That is why it is important to understand controlling humidity.

One final thought! No different than how we must change the oil and filters on our vehicle every 5,000 km in order to keep it working as it was intended, it is also important that you as the homeowner will need to maintain the home's HVAC system so that it operates as intended. We recommend the following maintenance for your HVAC system:

- Change your furnace filter monthly while construction is in the area.
- Wash your ERV foam filters at the start of each season.
- Vaccuum your ERV core once a year or twice a year if needed.
- Keep your outdoor intakes and exhausts free from dust and debris.
- Ensure your Exterior ERV hoods are not blocked after any large snowfall.

A well maintained HVAC system plays a key role in helping you maintain your home's humidity at the optimal levels and help to provide you with a healthy, safe & comfortable living environment.

If you missed out on our Understanding Humidity series, be sure to download the series to keep on file!