



August 27, 2009

Mr. Brian Killins,
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Mr. Killins:

We were encouraged to see the progress made on the Energy Star draft specification for HRVs and ERVs during the August 12 webinar. It is obvious that much has been done to adapt the specification to meet the needs of both Canada and USA. The opportunity to comment on the proposed draft is appreciated. In the following paragraphs, you will find our comments and recommendations for improvement.

Recommendation #1: The requirements for the minimum SRE for Tier 1 should be set according to Table 1 for the Draft Canadian Specification, more specifically 60% @ 0°C and 55% @ -25°C, whenever these performance ratings are called for.

This topic was under debate for numerous hours during the development of the Canadian specification. On one side, it was mentioned that even the lowest efficient H/ERV in the HVI directory is more energy efficient than the top rated Energy Star exhaust fan; on the other side, it was said that we cannot compare the two different products on the same basis since H/ERVs tend to be operated for more hours during the year than exhaust fans. Both sides were able to agree, after numerous meetings and discussions, on the above mentioned minimum requirements. Any requirement more stringent than this could have the adverse effect of delaying the acceptance of this new Energy Star program. Customers will more than likely not be willing to pay the premium for the higher performing products. Furthermore, we have to consider that the current SRE ratings have already been discounted for the electricity consumption of the fans, which represents a penalty between 4 and 8%. As there already is a requirement for a cfm/watt rating, electricity consumption is effectively counted twice.

Recommendation #2: Remove the requirement in the Heating and the Cooling Zones to obtain airflows within 10% of each other.

Historically, it has never been a concern or an objective for any manufacturer to maintain the same airflow for tests performed at different temperature ratings. This represents an unfair situation for some manufacturers who could have to re-test at very high cost, only to match two airflows. Also, this has always been a challenge to guess the final airflow during low temperature testing, because the initial balancing/setting of the airflows is made at room temperature and several factors impact on the final airflow at the end of three days of testing. The difference in air density, defrost cycles, partial frosting of the heat recovery module... all make the task virtually impossible.



Recommendation #3: The process of accrediting laboratories other than the current EXOVA (formerly Bodycote Ortech) requires the involvement of HVI – The Home Ventilating Institute.

The test results coming from different labs must be comparable; it is imperative that a qualification process for new testing labs be developed and proven before accrediting any new organizations. HVI has the greatest experience with certifying the performance of residential ventilation products including H/ERVs and additional labs need to meet their requirements before any results from a new lab would be accepted into the certification program. We would even recommend that a moratorium of at least 2 years be instituted before any new lab is accredited, leaving enough time to develop the accreditation process and to ensure that test results from different labs are consistently comparable. This program should also require that H/ERVs not only be tested in an accredited lab, but they should have their performance certified by a recognized certification agency, such as HVI, which requires regular verification to ensure the performance ratings are maintained.

Recommendation #4: The requirements for the minimum SRE for Tier 2 should be set according to Table 2 for the Draft Canadian Specification, more specifically 65% @ 0°C and 60% @ -25°C, whenever these performance ratings are called for.

Same rationale as recommendation #1 above applies.

Recommendation #5: The Heating Zone should be called “Zone 3” and should include all of Canada

Canada is a cold country where heating requirements are predominant in winter. The earlier draft specification for Canada, including the requirement of a minimum rating for SRE @ -25°C was accepted by industry stakeholders. Moreover, several building codes in this country require that H/ERVs be tested at -25°C. Any change to the existing requirements would be unnecessarily confusing and not provide any benefit.

Recommendation #6: The Cooling Zone should be called “Zone 1” and should include the area below the white line in Figure 8.2 of the ASHRAE 62.2 Standard.

This area is defined as warm and humid. Most of the time, ventilation of air conditioned spaces in this area adds a latent load to the cooling system. It is logical that any level of moisture (or latent heat) recovery during the ventilation process will reduce this addition of latent load on the cooling system as a portion of the moisture contained in the outside air will be returned to the outside before entering the occupied space. In other areas that are defined as warm/hot and dry, the recovery of moisture is not a concern, thus both HRVs and ERVs will perform equally well.



Recommendation #7: The Neutral Zone should be called “Zone2” and should include the remaining area between Zone 1 and Zone 3.

In this area, the outside temperature being moderate, the requirement for an SRE at -25°C is simply unnecessary. The same rationale is true for a hot and dry climate, where ventilation does not really add any latent load to the cooling system, thus making any TRE at 35°C requirement almost irrelevant.

Recommendation #8: There should not be any recommendation, from Energy Star, for or against the use of HRVs or ERVs in some climatic zones.

Energy Star should ensure that the requirements for SRE, TRE and CFM/watt, at the prescribed outside temperature, are implemented. By dealing with only these parameters, it should remove the confusion about ERVs being better here and HRVs being preferred there. Manufacturers have made significant improvements to both technologies allowing ERVs to be successfully used in colder climate zones and there are applications in hot zones where an HRV may be the best choice. Consequently, only products with appropriate performance levels will be Energy Star labelled in all climatic Zones, and the confusion about the distinction between HRVs and ERVs will be eliminated.

Recommendation #9: A set of recommended guidelines should be required in the literature accompanying each Energy Star labelled H/ERVs.

These guidelines could cover many aspects relative to the installation and the use of these products, such as maintenance, controls options, and how to better control moisture and other information of great value to installers, builders and home owners

These are the recommendations from our company at this time. I am available to discuss any or all of these recommendations with you if you so wish. As mentioned in previous discussions, it is our opinion that it would be preferable if the implementation of this specification was done simultaneously in Canada and in the U.S. However, we would be open to a staggered implementation, with a sooner date in Canada, should a consensus between the two countries takes more than 2 to 3 months to achieve.

Best regards,

Daniel Forest,
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