

Comparison of HRV and Exhaust Ventilation System Flowrates

Sample House: 3 bedrooms, 2 1/2 bathrooms, 1500 sf
House Volume: 26300 cf

With Heat-Recovery Ventilation System:

Supply: 25 cfm to main living area
20 cfm to each bedroom
Exhaust: 25 cfm from kitchen
20 cfm from each bathroom
Total Flow: 85 cfm, continuous
122400 cf per day

Average Air-change Rate: 0.19 ACH (air changes per hour)
Total House Air exchanges in 24 hours: 4.7

With Exhaust-Only Ventilation System:

Supply: Via incidental envelope leakage (i.e. through windows, attic, crawl-space)
No assurance of distribution to all spaces of the home
Exhaust: 150 cfm from range hood, 1 hour per day
80 cfm from each bathroom, 1 hour per day
200 cfm from clothes dryer, 1 hour per day
Total Flow: 25800 cf per day

Average Air-change Rate: 0.04 ACH (air changes per hour)
Total House Air exchanges in 24 hours: 1.0