IMPROVE INDOOR AIR QUALITY WITH A RENEWAIRE ERV

- Deficient indoor air quality (IAQ) is an EPA top-five health risk
- People spend 90% of their time indoors
- Indoor air can be 2–5 times, and up to 100 times, more polluted than outdoor air
INDOOR AIR QUALITY MATTERS

As buildings get tighter to seal weather out, they seal in contaminants, causing deficient indoor air quality (IAQ). Typical contaminants include off-gassing from carpeting, furniture and building materials, excess humidity and mold, odors, cooking and cleaning fumes and CO2.

ADVERSE EFFECTS OF DEFICIENT IAQ

HEALTH PROBLEMS
Deficient IAQ can cause allergies, headaches, coughs, asthma, skin irritations and breathing difficulties, as well as cancer, liver disease, kidney damage and nervous-system failure.

COGNITIVE IMPAIRMENT
Harvard and Berkeley Lab found that CO2—a constituent of exhaled breath—negatively impacts thinking and decision-making at levels commonly found indoors.  

REDUCED PRODUCTIVITY
Berkeley Lab found that deficient IAQ can cost $200 billion in debilitated worker performance and $58 billion in lost sick time.

DISEASE TRANSMISSION
Ventilation with outdoor air is vital to diluting airborne contaminants and decreasing disease transmission rates.

Ventilation can enhance IAQ and decrease the transmission of airborne infectious diseases, including COVID-19: https://bit.ly/COVID19_WP

HIDDEN CONTAMINANTS AT HOME

1. Contaminated Airborne Aerosols: Aerosols generated by coughing, sneezing, talking and breathing can act as carriers for viruses and bacteria
2. Carbon Dioxide: Exhaled breath
3. Humidity: Exhaled breath, water sources
4. Formaldehyde, VOCs, Toxic Gases: Furniture, mattresses, carpets, cleaners, paints
5. Dust Mites: Carpets, fabrics, foam cushions
6. Odors: Bathrooms, kitchens, occupants, pets
7. Carbon Monoxide: Gas stoves, gas heating systems, garages
8. Phthalates: Adhesives, vinyl, plastic pipes, building materials
9. Mold: Stagnant water, drains, condensate pans, damp areas

The solution to pollution is dilution achieved via increased and balanced ventilation. With enough controlled fresh and filtered outdoor air coming in to replace equal parts of stale indoor air via balanced design, IAQ will be enhanced.

## Types of Home Ventilation

| EXHAUSTS CONTAMINANTS FROM WHOLE HOUSE: Generally, exhaust-only ventilation, such as bath fans and oven hoods, only expel contaminants from a localized single source. The optimal solution will provide whole-house ventilation. |
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| PROVIDES FILTERED SUPPLY AIR: Exhaust-only units bring in uncontrolled outdoor air that has seeped through cracks and openings. Uncontrolled air is not filtered air. Controlled supply air is preferable as contaminants are filtered out. |
| PERFORMS WELL IN ALL CLIMATES YEAR-ROUND: Hot, humid or sub-zero-extreme environments add a heavy load onto home heating and cooling systems. Because RenewAire ERVs temper the air temperature and humidity via energy recovery, they work well in all climates. Additionally, RenewAire ERVs do NOT have issues with freezing in winter conditions, which can be problematic for HRVs: |
| • Since humidity is transferred via core material in an EV, the core itself will not freeze so there is no need for defrost (known issue with HRVs) |
| • There are no condensate lines to freeze in an ERV (known issue with HRVs) |
| OPTIMIZES ENERGY AND SAVES MONEY: Energy recovery recycles energy by reusing the otherwise-wasted energy and humidity from exhaust air to temper incoming outdoor air, which saves money year after year by lowering demand/load on your mechanical AC/HEATING equipment. |
| EASY TO INSTALL: RenewAire ERVs can be mounted in multiple orientations and they do not require drain pans, which makes them a breeze to install. By comparison, HRVs require drain pans, which can complicate installation. Also, ERVs provide a single exhaust point, which means less equipment to purchase and install (no need for individual bath fans). |
| EASY TO MAINTAIN: Since RenewAire ERVs do not require drain pans (like HRVs), issues with frozen drain lines in cold-weather applications are avoided. Additionally, since ERVs provide a single exhaust point, this means less maintenance and cleaning. Our ERVs are effortless to maintain—simply check and replace disposable filters as needed and vacuum the ERV core face once a year. |

### Exhaust-Only (Bath Fan)

- **Filter Air:** No |
- **Tempered Supply Air:** No |

### Balanced Ventilation

- **Filter Air:** Yes |
- **Tempered Supply Air:** Yes |

### Energy Recovery Ventilation

- **Filter Air:** Yes |
- **Tempered Supply Air:** Yes |

### RenewAire ERVs Have a Short Payback Period, Unparalled Reliability & an Industry-Best Warranty

- **Energy Recovery Ventilation**
  - **SL SERIES**
    - 51-76 CFM continuous mode, 76-94 CFM boost mode
  - **BR SERIES**
    - 40-140 CFM, Two-duct design
  - **GR SERIES**
    - 40-110 CFM, Contractor grade—four-duct design
  - **EV SERIES**
    - 30-540 CFM, Four-duct design

NEW!

- **EV SERIES PREMIUM**
  - 30-280 CFM
  - EC motors, dial-a-flow controls, boost-mode capability, plug-in power

**RenewAire Core Technology**

- **Inside Fresh Air Enters**
  - Fixed Partition and Spacer Plates (proprietary resin and composite media)

- **Outside State Room Air Exits**
  - State Room Air

**Airstreams Do Not Mix & Pollutants Are Not Transferred Across Partition Plates**

**The Best Solution**

The best solution is RenewAire’s energy recovery ventilation technology, which provides enhanced IAQ, greater ventilation efficiency and major energy cost savings.
**ASHRAE 62.2**

The American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) 62.2 committee has established a residential ventilation standard, known as *Ventilation and Acceptable Indoor Air Quality in Residential Buildings*. The goal of this standard and its continuous revisions are to not only evaluate and recommend every building’s minimum ventilation needs, but also emphasize indoor air quality and its relationship with occupant health.

**MIN. VENTILATION AIRFLOW REQUIRED BY SQ. FT.*

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See the chart above to calculate the minimum ventilation required for your home: \(0.03 \times \text{sq. ft.} + 7.5(\text{bedroom} + 1)\). For example, a 2,200 sq. ft. home with 4 bedrooms requires a minimum of 104 CFM.

* Infiltration credit not considered, please contact RenewAire to assist in selecting a unit that is best suited for your home.