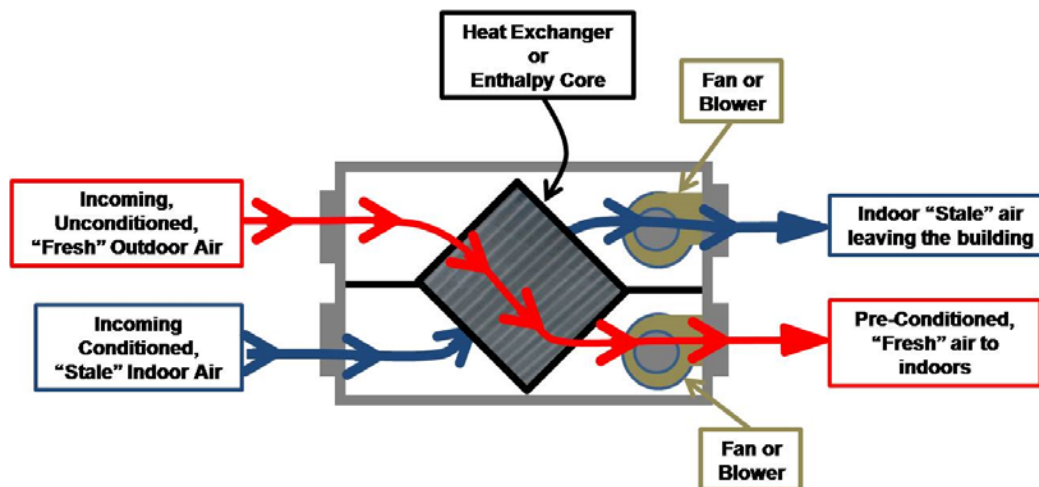


SystemVision homes are designed with significant attention paid to a well-sealed and insulated thermal envelope. As we build tighter homes it becomes more important to introduce mechanical ventilation, or fresh air, to ensure those occupying the home have good indoor air quality with fewer pollutants.

ERVs and HRVs are a balanced mechanical ventilation strategy in which equal amounts of incoming and outgoing air are run through a heat-exchanged air distribution system (fan with ductwork). An ERV has the additional ability to remove some of the incoming latent load (humidity) from the unconditioned air.



When employing a balanced mechanical ventilation strategy in a SystemVision home there are several considerations that must take place that differ from a supply-only strategy:

- HRVs are only allowed at approved site locations to ensure comfort guarantee
- ERVs are allowed statewide, however are not recommended for CZ5 locations
- Ventilation filter access
 - ERV/HRV box must be accessible from within the living space
 - Reusable core filter must be cleaned periodically by homeowner



- We recommend distributing supply air in two configurations:
 - Directly to a common living space
 - Circulated to bedrooms and common spaces with air distribution system (ducted HVAC system or ducted in-line fan)
- Exhaust air may run from many locations. We recommend:
 - Central return (if HVAC system is ducted)
 - Bathroom with shower/tub
 - Kitchen
 - Common living spaces
- Alternative designs may be allowed with approval.
- Run-time may exceed 12hr threshold
 - Do not induce a flow rate above prescribed ASHRAE 62.2 levels as defined in the SystemVision database (www.hometracking.org)

In addition to these unique design features it is also important to remember:

- All supply and exhaust ductwork must be insulated, and air sealed with bucket mastic
- System must have the ability to damper up and down the flow rate
- Ducts may not have bends greater than 90 degrees
- Exterior supply and exhaust terminations must extend beyond exterior skin of the home
- Balanced systems must meet minimum runtime threshold of 6min/hr
- Requires a dedicated power outlet for ERV

The Building America database is a great resource for more information:

<https://basc.pnnl.gov/resource-guides/whole-building-delivered-ventilation#quicktabs-guides=0>

If you have questions, please contact us at: systemvision@advancedenergy.org