Today’s green-home-building revolution is creating quite a bit of confusion when it comes to the important “Indoor Environmental Quality” component and the requirement to include a whole-house ventilation system in energy-efficient homes to ensure proper indoor air quality. Much of the confusion stems from the fact that there are many different ventilation methods, products, and so-called experts touting one solution over the other. There are many factors that determine which ventilation solution is appropriate: climate, building technique, home design, utility cost, occupancy density, building codes, equipment costs, and more.

Claims that one solution fits every application are simply not true. The following tables present a simplified mechanical ventilation guideline for exhaust, supply, and balanced systems.

### Home Ventilation Systems

**One Size Does NOT Fit All**

<table>
<thead>
<tr>
<th>APPLICATION</th>
<th>EXHAUST</th>
<th>Supply</th>
<th>Balanced</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Removes stale air directly from the source area and draws fresh, dry air into the home, usually through infiltration (leaks in the home’s envelope) or dedicated air inlets (AIRLETS™) in the wall or windows.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### EXHAUST

- **PRODUCT:**
  - Ceiling-Mount Exhaust Fan *
  - Single-Port Exhaust Fan
  - Multi-Port Exhaust Fan

- **BEST FOR:**
  - Cold or Dry Climates
  - Cold or Dry Climates
  - Cold or Dry Climates

- **RELATIVE PRICE:**
  - Low
  - Low/Medium
  - Medium

- **PROS:**
  - Can use one fan for IAQ and single bathroom exhaust
  - Can be mounted remotely to reduce noise
  - Can use one fan for IAQ and bathroom exhaust
  - Can be mounted remotely to reduce noise
  - Can use one fan for IAQ and ALL exhaust ventilation needs (kitchen and bathrooms)
  - Only one roof or wall penetration for multiple exhaust locations
  - Improved fresh-air distribution

- **CONS:**
  - Noisy
  - Negative pressure created by fan may result in backdrafting of naturally vented gas appliances
  - Negative pressure created by fan in humid climates introduces excess moisture, which increases the potential for condensation
  - Cannot filter incoming air unless AIRLETS™ are used
  - Poor fresh-air distribution
  - Multiple roof or wall penetrations (one for each fan)
  - Negative pressure created by fan may result in backdrafting of naturally vented gas appliances
  - Negative pressure created by fan in humid climates introduces excess moisture, which increases the potential for condensation
  - Cannot filter incoming air unless air inlets are used
  - Poor fresh-air distribution
  - Cannot filter incoming air unless air inlets are used

* American Aldes does not sell ceiling-mount bathroom exhaust fans.
**SUPPLY**
Delivers air directly into the home, either through dedicated ducts and/or forced air conditioning systems OR through dedicated duct(s).

<table>
<thead>
<tr>
<th>PRODUCT:</th>
<th>Filtering Supply Fan</th>
<th>Blending Fan</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEST FOR:</td>
<td>Hot and Dry / Mild Climates</td>
<td>All except extreme cold</td>
</tr>
<tr>
<td>RELATIVE PRICE:</td>
<td>Low/ Medium</td>
<td>Medium</td>
</tr>
</tbody>
</table>
| PROS:               | • Positive pressure can help reduce introduction of unwanted outside air contaminants and VOCs from attached garages  
• Direct delivery of outside air into dwelling  
• Low power consumption  
• Ability to filter incoming air and accurately control fresh air amounts  
• Supply air offsets negative pressure caused by kitchen exhaust, dryer exhaust, chimneys, and stack effect | • Same as Filtering Supply fan, but tempers outside air with indoor air before delivering to home  
• Good fresh-air distribution  
• Supply air offsets negative pressure caused by kitchen exhaust, dryer exhaust, chimneys, and stack effect |
| CONS:               | • Use in cold climates can force interior humidity into wall cavities, which condenses and often results in mold growth  
• Additional exhaust fans are still required | • Use in cold climates can force interior humidity into wall cavities, which condenses and often results in mold growth  
• Additional exhaust fans are still required |
# BALANCED

Uses two fans to exhaust stale air and deliver fresh air to the home. Both airstreams pass through a heat exchanger to temper the incoming air and reduce total energy impact of ventilation.

<table>
<thead>
<tr>
<th>PRODUCT:</th>
<th>Heat Recovery Ventilator (HRV)</th>
<th>Energy Recovery Ventilator (ERV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEST FOR:</td>
<td>Extremely Cold Climates</td>
<td>Hot and Humid Climates</td>
</tr>
<tr>
<td>RELATIVE PRICE:</td>
<td>High</td>
<td>High</td>
</tr>
</tbody>
</table>
| PROS:             | • Saves energy in extreme climates  
                   • Tempers outside air before delivering to the home  
                   • Should not cause any pressure imbalances (positive or negative) in the home | • Saves energy in extreme climates  
                   • Tempers outside air AND reduces outside air humidity before delivering to the home  
                   • Should not cause any pressure imbalances (positive or negative) in the home |
| CONS:             | • Energy saved in mild climates is often not enough to offset the energy consumed by the two fan motors in these appliances  
                   • More difficult to install and set-up than traditional fans  
                   • Requires more maintenance than traditional fans | • Energy saved in mild climates is often not enough to offset the energy consumed by the two fan motors in these appliances  
                   • More difficult to install and set-up than traditional fans  
                   • Requires more maintenance than traditional fans  
                   • Hydroscopic exchange can cause freezing and damage the recovery core in cold climates (unless provisions are made for frost prevention) |

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