Excess moisture can cause mold, mildew and wood rot. UnderAire fans increase air circulation to fight condensation.

Constant operation helps vent radon, treated wood off-gassing and odors that might otherwise migrate into living areas.

Many basements are stale, musty or smelly because of:
- Seasonal water issues, sump pits & floor drains.
- Off-gassing of molds that thrive when humidity is in excess of 60% RH.
- General lack of air exchange or ventilation.
**UnderAire™ Crawl Space Ventilators**

**Designed and Engineered for Years of Service**
- Galvanized face plate may be trimmed if necessary.
- Models V1D and V2D include adjustable dehumidistat.
- Thermostat deactivates fan below 40°F to avoid freeze-ups.
- Models V1D and V2D have 6' grounded power cord.

**Easy to Install**
Ventilators are installed inside crawl space behind existing ventilation opening. Screws and masonry wall anchors are included.

**UnderAire™ Crawl Space Supply Fans (Models CS1 & CS2)**
Pair with V-Series fans to boost the supply of outdoor air into crawl spaces with too few or undersized passive vents or stagnant areas around knee walls or corners. Mounting plate can be trimmed for smaller opening.

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**Model V1**
One fan and small faceplate for ventilation openings through brick foundations. (Requires switch or dehumidistat to activate. Multiple ventilators may be controlled by a single switch or dehumidistat). Includes thermostat.

**Model V1D**
One fan and large faceplate sized for ventilation openings through block foundations. Includes thermostat, dehumidistat and pre-wired 6' power cord.

**Model V2D**
Two fans and large faceplate sized for ventilation openings through block foundations. Includes thermostat, dehumidistat and pre-wired 6' power cord.

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**Facts to Know About Crawl Space Ventilation**
From Mississippi State University Extension Service:

If soil is damp, as much as 20 gallons of water per 24 hours can evaporate into the air in a 1,400 sq. ft. crawl space.

Primary causes of excess moisture include:
- Surface runoff water
- Poor ventilation
- No or poor ground vapor barrier

Signs of excess moisture in crawl space:
- Soil is wet
- Surface organism growth on floor joists
- Wet insulation
- Musty odors in crawl space or living areas
- Excessive moisture in living areas tending to migrate towards windows
Model X2D

Use X2D in applications with rooms located along an exterior wall. Includes dehumidistat control and magnetic draft stops. Install X2D through a 12 1/4 x 5 1/4 inch opening in a basement rim joist or any outside wall. Plug the XchangeR fans into included dehumidistat control and plug the control into a standard outlet.

To Reverse Air Flow (Model X2D shown)

1. Exhaust musty air
2. Supply fresh air
3. Or position one fan in each direction for balanced air exchange with no bypass from either air stream

Push Fan Back In

Rotating Fan 180°

Pull Fan Out

Simple Installation

Model X2D

Using X2D in applications with rooms located along an exterior wall. Includes dehumidistat control and magnetic draft stops. Install X2D through a 12 1/4 x 5 1/4 inch opening in a basement rim joist or any outside wall. Plug the XchangeR fans into included dehumidistat control and plug the control into a standard outlet.

Model X2R

Using X2R in applications where outside hood must be ducted to the room X2R is installed in. Mount X2R below or between floor joists / trusses or secure to wall in any orientation for installation flexibility. Install hood through 13 3/4 x 6 1/2 inch oval opening. The X2R includes magnetic draft stops but does not include a dehumidistat control so that it can be paired with the control best suited for the application.

Easy Maintenance

Rugged outdoor hood with easy to remove and clean screen.

Also use XchangeR Fans to:

- Comply with residential ventilation requirements
- Dehumidify and freshen non-ventilated crawl spaces
- Supply make-up air for stoves or fireplaces
- Ventilate hot garages, storage areas & workshops
- Keep closed up cabins or vacation homes fresh
- Dilute basement radon levels

Three Air Flow Options

Easily reverse the direction of the airflow to:

1. Exhaust musty air
2. Supply fresh air
3. Or position one fan in each direction for balanced air exchange with no bypass from either air stream

Fans use only 40 watts compared to over 1,000 watts for the typical dehumidifier. Save over $100 per year in electrical costs.
### UnderAire™ Crawl Space Ventilators

<table>
<thead>
<tr>
<th>Specifications</th>
<th>V1</th>
<th>V1D</th>
<th>V2D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance</td>
<td>110 CFM</td>
<td>110 CFM</td>
<td>220 CFM</td>
</tr>
<tr>
<td>Motor</td>
<td>115/1/60 0.30 amps</td>
<td>115/1/60 0.30 amps</td>
<td>2 @ 115/1/60 0.60 amps</td>
</tr>
<tr>
<td>Dehumidistat</td>
<td>Optional Model DH10 dehumidistat available separately</td>
<td>OFF/ON or OFF/ON under 20-80% RH</td>
<td>OFF/ON or OFF/ON under 20-80% RH</td>
</tr>
<tr>
<td>Thermostat</td>
<td>Opens at 40°F</td>
<td>Opens at 40°F</td>
<td>Opens at 40°F</td>
</tr>
<tr>
<td>Dimensions</td>
<td>14 3/8” x 6 7/8” x 2”</td>
<td>18” x 9” x 2”</td>
<td>18” x 9” x 2”</td>
</tr>
<tr>
<td>Trim Dimensions</td>
<td>9 3/8” x 5 3/8”</td>
<td>9 3/4” x 6”</td>
<td>14” x 6”</td>
</tr>
</tbody>
</table>

### How to determine the number of UnderAire™ Ventilators needed:

Calculate the cubic area of the crawl space by multiplying the length x width x height. Divide this number by 15 to determine the minimum CFM necessary to fully ventilate the space in 15 minutes. Example: 20’ wide x 40’ long x 3’ high crawl space = 2,400 cubic ft. 2400 cubic ft. ÷ 15 minutes = 160 CFM of ventilation. Choose two V1 or V1D ventilators or one V2D ventilator.

### XchangeR™ Ventilation Fans

### For Dehumidification

The X2D includes a Dehumidistat control to automatically cycle based on user set RH (Relative Humidity) level. The model X2R requires the DH2P plug-in Dehumidistat for automatic RH based operation.

### For Timer Based Air Exchange

.33 Air Change / Hour (ACH) recommended

<table>
<thead>
<tr>
<th>Basement FT²</th>
<th>XchangeR Run (8 foot ceiling)</th>
<th>Time/Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>500</td>
<td>1 Fan (90 CFM)</td>
<td>15 min 7.5 min</td>
</tr>
<tr>
<td>750</td>
<td>1 Fan (90 CFM)</td>
<td>22 min 11 min</td>
</tr>
<tr>
<td>1000</td>
<td>1 Fan (90 CFM)</td>
<td>30 min 15 min</td>
</tr>
<tr>
<td>1250</td>
<td>1 Fan (90 CFM)</td>
<td>37 min 18.5 min</td>
</tr>
</tbody>
</table>

### Optional Accessories

- SWR Switch-it Wireless 120v Outlet
- G-6 6” White Plastic Exhaust / Intake Grille
- BD-6 6” Spring Return Back Draft Damper (for use with X2R)

### Model X2D Includes Automatic Dehumidistat Control

Turn either fan on or off and automatically operate your basement fan by adjusting the dehumidistat control to the level needed. Rotate the dial fully clockwise for constant operation. For X2R models, order optional DH2P Control.