

ATMOX

ATMOX FLEX System
Moisture Control System for Crawlspace

User's Guide





Welcome to ATMOX

This User's Guide will cover the basic operation of the ATMOX System.

For instructions on installation, setup and software adjustments, please refer to an ATMOX Installation Manual.

KEY BENEFITS

WHY ATMOX?

USES POWERFUL, YET QUIET FANS

CREATES CROSS CIRCULATION OF AIR FLOW

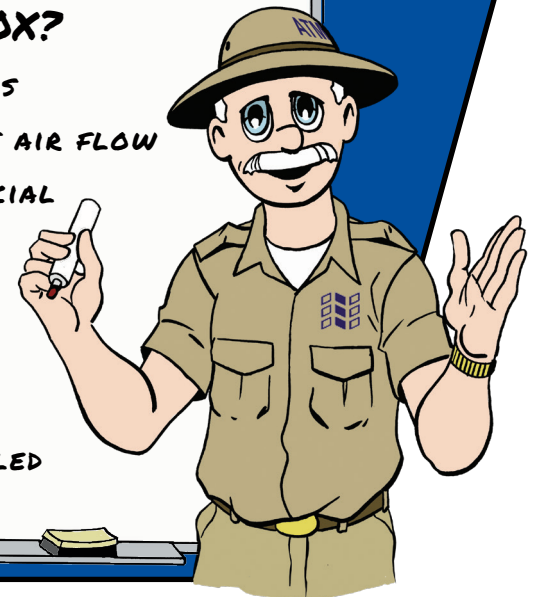
VENTILATES ONLY WHEN BENEFICIAL

ADDRESSES ODOR ISSUES

ENERGY EFFICIENT, USES LESS THAN 150 WATTS OF POWER

OPTION TO INCORPORATE A DEHUMIDIFIER

FULLY AUTOMATIC ONCE INSTALLED



Crawlspaces need dry and proper ventilation. The goal of ATMOX is simple – reduce the moisture and humidity level in your crawlspace.

The basic principle of how it works is also simple. Ventilate with “good” air from the outside only when it will improve the conditions in the crawlspace. Using sensors, ATMOX calculates dew point inside and outside your crawlspace to determine when the fans or dehumidifier should run. The fans allow for natural air circulation into the crawlspace.

An optional dehumidifier, if equipped, is only used when the system cannot find “good” air from the outside, making the system energy efficient and environmentally friendly.

Once installed, the ATMOX System will operate on its own and automatically. The system will adjust for seasonal changes as needed. There is no need to manually make any changes to the system.



ATMOX Settings



The ATMOX System is a fully automatic and software-controlled moisture management system. The system continually measures conditions inside and outside to determine the best course of action for your home and crawlspace.

The system is preset to the proper settings. It is very rare for adjustments to be necessary.

If you have inadvertently made changes by pressing buttons, talk to your installer about setting system back to its default settings.

Do not adjust the settings on your system without talking to your installer. Improper settings can negatively affect the operation of the ATMOX system.

Standard System Components



FLEX Controller



Outside Temperature and Humidity Sensor



Inside Temperature and Humidity Sensor

Product Specifications

Usage: Variable from 1.5-150 W

Input Voltage: 85-132V AC

Output Voltage: 12-13V DC

Output Current Range: 0-12.5A

Data Input: 2 Temperature/RH

Power Output: 3 Switched, 1 Constant

Use only approved ATMOX Fans and Accessories with the ATMOX FLEX System



Basic System Configuration



Sensors measure and provide data to the Controller.



RED OUTPUT

Fans will run when the outside air is beneficial.

ORANGE OUTPUT

Fans will run when the outside air is beneficial or when inside relative humidity is elevated. (Runs with Red Output and with Yellow Output)

YELLOW OUTPUT

Fans or dehumidifiers will run when the outside air is not beneficial and inside relative humidity is elevated.

PURPLE OUTPUT

A constant power source for accessories.



The ATMOX Controller will automatically rotate through its standard informational screens about every fifteen seconds.

System Screen

This screen displays the name of the ATMOX model and the installed software version.



ATMOX FLEX 5.30
www.atmox.com

To view all screens, you can wait and watch as it scrolls automatically.

For faster rotation of screens, you can manually change the display. Press the M Button on the panel to scroll through each of the screens.

The M Button will also light up the screen for easier viewing.

Note: The system will continue to auto rotate even while the M Button is being pressed.





Informational Display Screens

Temperature Screen

The Temperature Screen displays the temperature outside and inside the crawlspace.

```
OUTSIDE: 75.5°F  
INSIDE : 75.7°F
```

The ATMOX system evaluates the outside and inside temperature to determine whether or not to ventilate the crawlspace. If the temperatures are too cold or too hot based on several calculations, the system will not ventilate with outside air. The ATMOX system automatically adjusts its temperature parameters for different times of the year.

Note: If the outside sensor is located in direct sunlight, it will often heat the metal housing causing the sensor to read a temperature that is higher than the ambient outdoor temperature. The overall outside moisture calculations (dew point) will not be incorrect, so this generally does not affect basic operation of the ATMOX system in determining when fans should be running.

Dew Point Screen

The Dew Point Screen displays the dew point outside and inside the crawlspace.

```
DEW OUT: 58.3°F  
DEW IN : 58.1°F
```

Dew point is the key to the ATMOX system. Dew point is calculated from the temperature and humidity measurements and gives you the best indicator of moisture in the air. A higher dew point means there is more moisture in the air, and a lower dew point means there is less moisture in the air. The ATMOX system does not activate ventilation on an absolute number but instead uses a comparison of air in the two locations. Under most circumstances, the fans will ventilate when the outside dew point is 1 to 1.5 degrees lower than inside dew point. There are some exceptions to this built into the software, for example temperature parameters need to be met. There is also a time delay of 15 to 30 minutes to conserve energy and avoid constant on and off. This means that you will not always see instantaneous change in operations.



Relative Humidity Screen

The Relative Humidity Screen displays the relative humidity outside and inside the crawlspace.

```
outside RH: 55%  
inside RH: 54%
```

Relative humidity is measured by the sensor along with temperature in each location and is used to calculate dew point. An important component of relative humidity is the word “relative.” Humidity is relative to temperature and can fluctuate significantly with changes in temperature. ATMOX ventilates based on a dew point comparison for this reason. It is possible for the humidity outside to be higher than inside but to still trigger the fans to run. It all depends on the corresponding temperature. In general, the ATMOX system is not looking to target an exact humidity level but instead is looking to have variations mirroring the outdoors. The goal is not to have extremely high humidity in the crawlspace for extended periods of time.

There are some operations on the ATMOX system that are triggered by inside humidity levels. Under default settings, if the crawlspace humidity exceeds 80% and outside dry air is not beneficial, then the controller will activate the Orange and Yellow outputs used for internal fans and an optional dehumidifier. Once activated, the fans and/or dehumidifier will continue operation until the inside relative humidity is below 75% or when outside air is drier. Your system will automatically trigger these outputs even if your setup does not have a dehumidifier or internal fans.

The relative humidity setting to activate Yellow and Orange outputs is adjustable. Contact your installer if you have questions about custom settings.

Fans On Screen

The Fans On Screen displays when the fans are activated.

```
Fans on  
-----
```

When this screen is showing, the conditions outside are beneficial to the crawlspace and fans have been triggered to run. All fans plugged in the Red and Orange outputs will be activated.

Dehumidifier On Screen

The Dehumidifier On Screen displays when the Yellow and Orange outputs are activated.

```
Fans off Dehu on  
-----
```

When this screen is showing, the conditions outside are not beneficial to the crawlspace and the inside relative humidity is elevated. All components plugged in the Yellow and Orange outputs will be activated. It is important to note that this screen will come on regardless of whether or not a dehumidifier is actually installed with the system.



System Operation, Alarms and Alerts

ATMOX FLEX System

ALARM

This light Indicates there is an alert on the system. Check screen to identify the reason for alarm.

MANUAL

Under normal automatic operation, this light is not illuminated. If the Manual light was accidentally illuminated, it can be turned off by pressing the bottom Arrow button one time to turn off.





Sensors are attached to Controller via telephone wire and jacks.



The ATMOX System sends signal and power to the fans, relays and other accessories via low voltage 12v DC power.

Each color represents an output for a different function of the system. Color-coded plugs connect the low voltage wire to the Controller.



Data Transmission Light

There is a small light on the Controller.

If the light is flashing quickly, then data is not being received.

If the light is pulsing slowly, then data is being transmitted or received.





System Notifications

System notifications are designed to alert you of a potential problem. The following are all possible alerts:

Communications Error

```
Comm. Error  
Not Connected!
```

There is a data connection problem with the wire inside the controller. If you see this screen on your system, contact your installer or ATMOX for more information.

Humidity Too High

```
Humidity  
too high
```

Under the system default settings, this humidity alarm setting is turned to the off position, so it may not be active on your system. If this alert is on for a brief period of time, there is no reason for concern as humidity can fluctuate. If this alert is on for an extended period of time, the crawlspace should be checked.

Missing, None, Defect (Def), with Inside or Outside Sensor

```
DEW OUT: missin9    outside RH: none  
DEW IN : missin9    inside  RH: none
```

Any of these alerts indicate that there is a data connection problem with the corresponding sensor. First, try to restart the system to clear the error. Second, check the telephone wires and couplers between the Controller and the sensor to see if anything is unplugged or damaged. If sensor is still not reading, contact your installer or ATMOX for more information.



What happens if we have a blackout or power outage?

The ATMOX System obviously runs on electricity, so there will be no operation when the system does not have electrical power. When the power comes back on, the ATMOX system will automatically restart and continue normal operation. All settings are retained so there is no need to do anything.

Will the fans running cause too much cold air to be brought in during the winter?

The system adjusts for Summer and Winter ventilation modes. The fans will not bring outside air into the crawlspace below a set temperature setting.

It is raining outside and the fans are running. What is wrong?

The answer is probably nothing. You have to trust the system even when it doesn't seem intuitive. The fans will be activated by dew point and not humidity levels. If a cold front comes through (even with rain), it is possible that the colder air will have a lower dew point than what is in the crawlspace. The air with the lower dew point will be beneficial to the crawlspace.

I have an alarm or a question, who should I contact?

Contact your local installer first as they will have more information about the specifics of your home and system. For any additional information or questions, contact ATMOX by phone at 704-248-2858 or email info@atmox.com.



Maintenance

As a homeowner, ATMOX suggests a periodic maintenance inspection of your ATMOX system and crawlspace by your installer. Conditions in and around your home are always changing. Please be aware of the following during other times of year:

Power Connection

If the ATMOX display screen is not showing any readings, it most likely has no electrical power and is not operating. In this case, see if something is unplugged or make sure that the outlet being used for the Controller has power. If the Controller has no power, then contact your installer for more information.

System Alarms

If the ATMOX system has an alarm such as missing hardware, then the system will not operate. Please check periodically to make sure that the display has no alerts needing attention.

Fan Operation

The ATMOX fans or vent covers should periodically be brushed off lightly to keep debris such as mulch or pine needles from blocking ventilation. The ATMOX display does not give a notification if any single or group of fans are not operating. Fans should periodically be checked for operation.

Moisture Management vs. Water Management

It is important to note that the ATMOX system is a moisture management system and not a water management system. Dry air or a dehumidifier cannot get rid of standing water in the crawlspace. Every effort should be made to drain water away from the foundation. Gutters should be cleaned out, and downspouts should drain away from the house. If you have water intrusion in your crawlspace, this needs to be addressed separately from or in addition to your moisture problem.

If you live in a very humid climate and have excessive ground moisture being released into the crawlspace during peak summer months, it may be necessary to incorporate an optional dehumidifier with the ATMOX system. Most homes do not need a dehumidifier, but there are exceptions. Contact your installer if you have questions about your situation or need more information.

ATMOX Limited Three-Year Warranty



When installed, operated, used and maintained as intended in residential applications and according to the instructions supplied with ATMOX products, ATMOX warrants its products for a period of 3-years from the date of purchase against any defects in material and workmanship. The products covered by this warranty include the control boxes, fans, sensors and wiring manufactured by ATMOX. ATMOX will repair or replace, at ATMOX's option, any ATMOX product or component found to be defective within the 3-year warranty period.

ATMOX products are designed to improve conditions in the crawlspace, basement or attic, yet are limited by atmospheric and natural conditions over which ATMOX has no control and which are not covered by this warranty. ATMOX products are not warranted against damage caused by electrical surges, fire or other casualty, vandalism, or acts of God (including lightning strikes and floods). This warranty does not make representations regarding mold, insects, termites, water, rot, electrical, HVAC, roof, framing, foundation, floors, drywall, gutters, ice dams or other problems that may occur in a house structure. The warranty does not include any costs of removal or reinstallation.

Third-party products by other manufacturers sold by ATMOX (such as dehumidifiers) are not covered by this warranty but may be covered under separate warranties by the product's manufacturer. Purchaser should contact third party manufacturers for warranty claims and coverage of third-party products not manufactured by ATMOX.

ATMOX INC'S LIABILITY UNDER THIS LIMITED WARRANTY IS STRICTLY LIMITED TO REPAIR OR REPLACEMENT OF DEFECTIVE ATMOX PRODUCTS. OTHER THAN THE WARRANTIES EXPRESSLY DESCRIBED HEREIN, ATMOX DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ATMOX WILL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Some states do not allow certain limitations and exclusions of warranty, so these exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

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