



VMASS

Make-up Air System

Installation and Quick Start Guide

Version 1.10

02/16/2026

X-VENTISO - Earthcore

VMASS Make-Up Air Control System IOM

Installation, Operation, and Maintenance Manual

Please read and save these instructions for future reference. The proper installation and maintenance of this system will allow years of dependable service. Read carefully before attempting to assemble, install, operate, or maintain the system. Protect yourself and others by observing all safety information. Failure to comply with instructions could result in personal injury and/or property damage!

Installation and maintenance must be performed only by qualified personnel who are familiar with local codes and regulations and who are experienced with this type of equipment. Personnel should understand these instructions and should be aware of general safety precautions.

DANGER! Always disconnect, lock, and tag all power sources before installing or servicing. Failure to disconnect a power source can result in fire, shock, or serious injury.

CAUTION! Consult and follow all applicable national, state, and local codes. They supersede this document.

WARNING! No installation, use or maintenance should be performed in an explosive or hazardous environment.

Introduction

The VMASS-CTRL control panel has been designed to maintain an installer configurable Make-Up Air System by reading pressure differentials and modulating air intake fan motor speed(s) to balance room air for proper fireplace operation.

VMASS-CTRL Control panel features include:

- LCD display for visual monitoring of the system
- Heater enable cable connection
- Leads for remote enable
- Alarm status

This manual covers the system controls and operations. Refer to the individual documentation for the heater, fans, air filter, and damper for installation instructions.

Note: Information in this manual may be updated without notice.

SYSTEM COMPONENTS

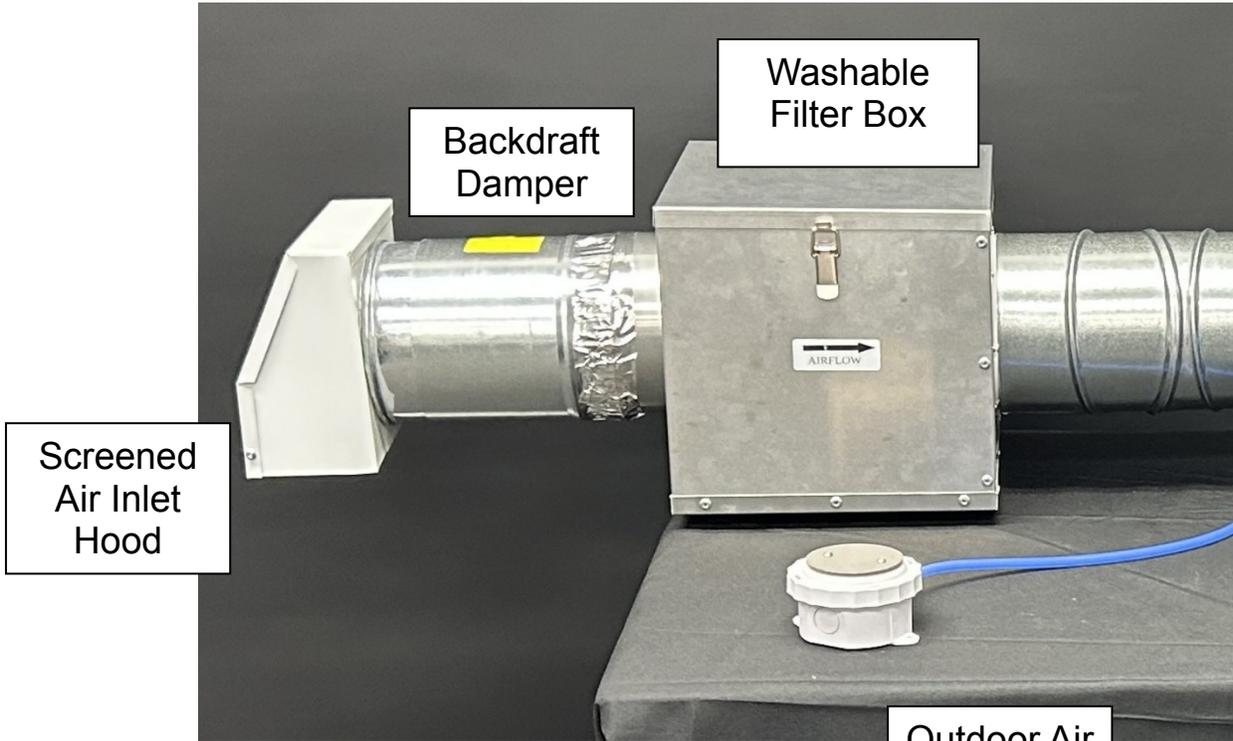
- VMASS-CTRL Controller (120V) with integrated Modulating Supply Air Fan (120V)
- Screened Outdoor Air Hood
- Outdoor Pressure Probe
- Backdraft Damper
- Washable Filter Box
- Duct Heater 2kW (120V) with 20Amp plug as standard. Optional 3kW (220/240V) or 5kW (220/240V) available(These larger heaters must be wired by a certified electrician). Includes Temp Probe that must be mounted according to instructions.
- Indoor Wall Plate Air Sensor Probe
- ***Not Included*** Shown 4-Way Supply Air Diffuser but many other style diffusers may be used. It is critical that the diffuser is sized so the 800 feet per minute velocity is not exceeded or excessive noise may result.

- **WIRING**

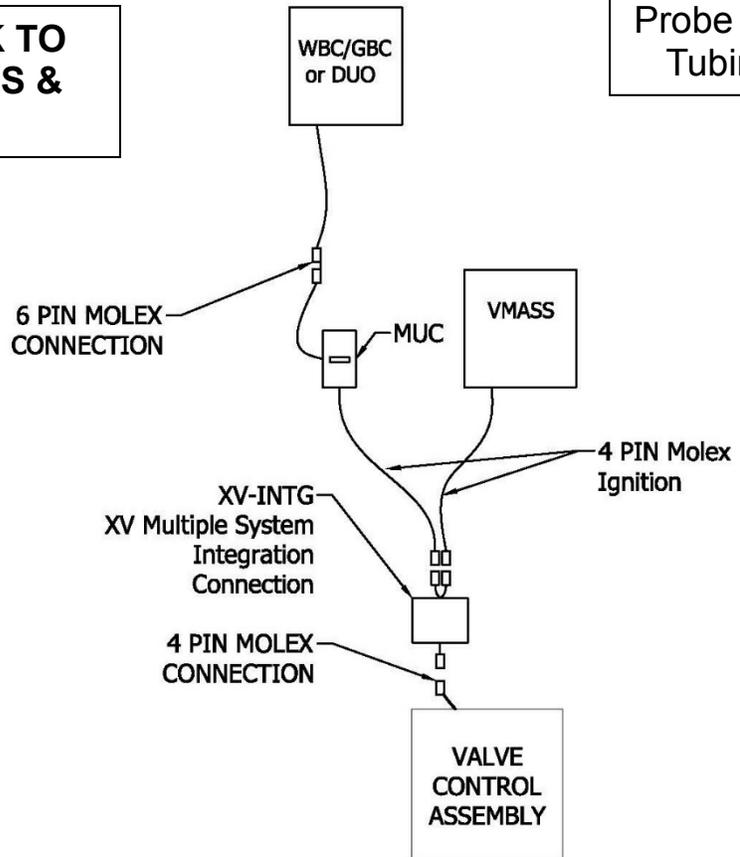
- Mount VMASS-CTRL/FAN combination in an accessible place in the attic, basement or crawl space. The fan/control is prewired for convenience and need only be plugged into a standard 120V/15A electrical circuit.
- Utilize 2-Wire 18 Ga. low voltage wire to connect to the remote, enabling leads coming off the control, and connect to a standard wall switch to activate the system or pick up a dry contact off of a KW controller or fireplace ignition control.
- 2-kW Duct heater wiring. Connect the two-wire low voltage duct heater control leads coming off the controller to the two leads on the duct heater. Plug the 120V/20A rated pigtail into a 120V/20A rated receptacle. 20A receptacle will always have the horizontal slot shown here. 3kW and 5kW duct heaters must be installed by a licensed electrician.

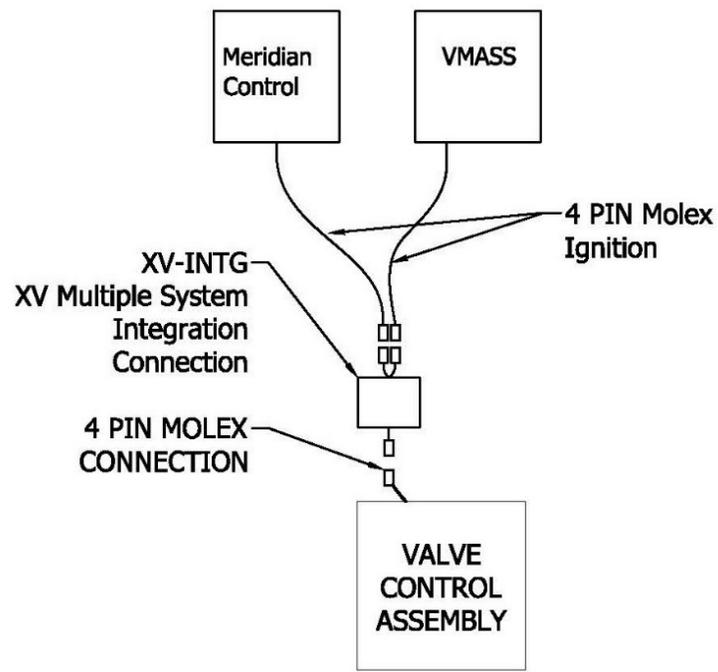
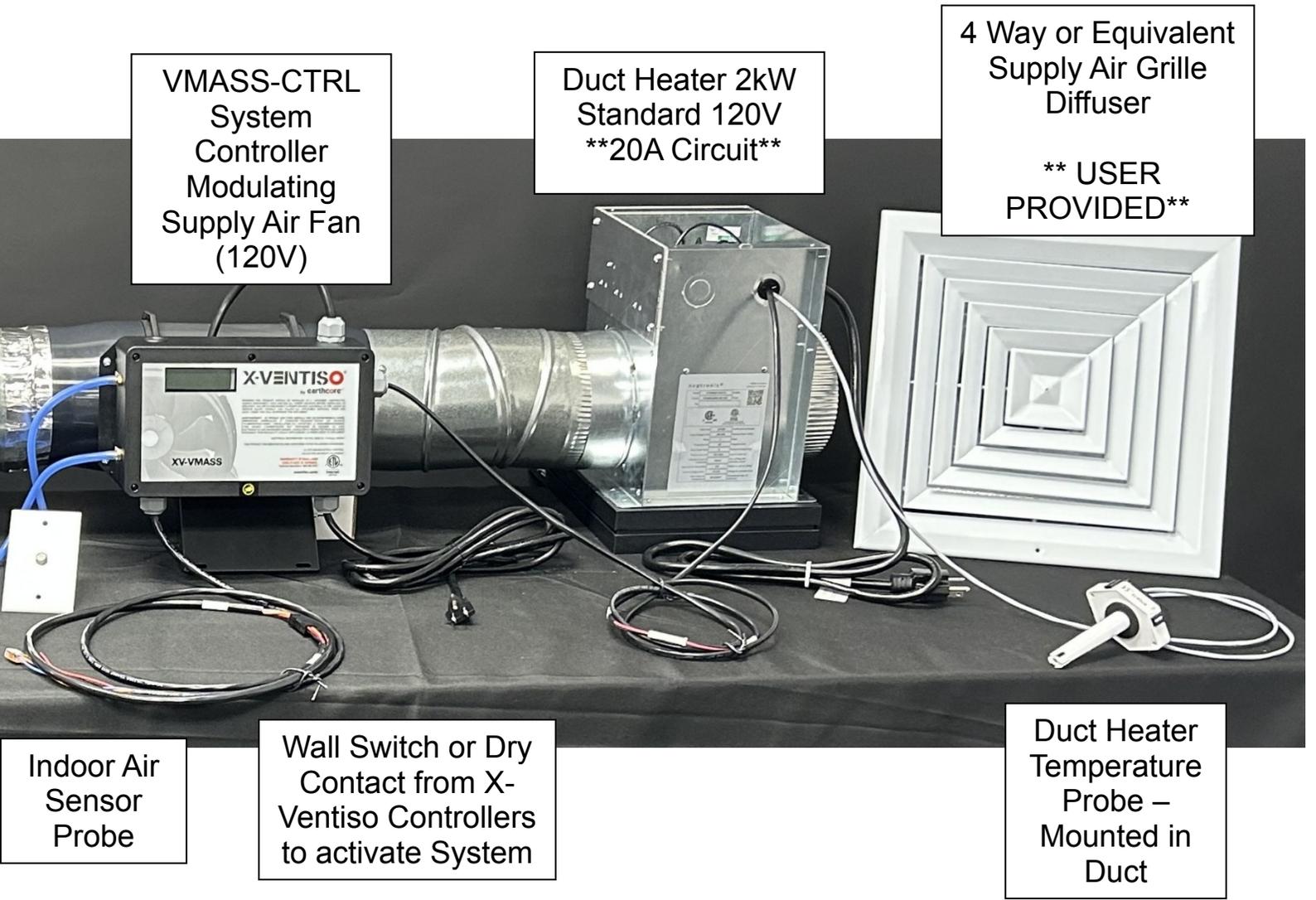


VMASS Makeup Air System Components



VALVE CONTROL INTERLOCK TO CONTROLLED POWER SERIES & VMASS





INSTALLATION

1. Screened Outdoor Air Hood and Outdoor Air Sensor Probe should be mounted on the exterior of the house and as close to the controller as possible. Route the blue tubing inside and attach to the top probe on the VMASS-CTRL controller.
2. Connect the correct diameter size and R-value flex or rigid duct to Outdoor Air Hood and route the duct to the Back Draft Damper.
3. Back Draft Damper, Filter Box, and In-Line Fan can all be directly connected to each other if desired.
4. If utilized, the Duct Heater should be separated by at least 1 foot of flex duct. Mount the duct heater temperature probe in the duct at least 1 foot downstream from the end of the duct heater.
5. Flex duct should be run from the end of the fan or optional duct heater over to the 4-way supply air diffuser which should be mounted somewhere directly above the Fireplace. You can utilize any other style supply air diffuser as long as the face velocity does not exceed 800 FPM. Otherwise, unacceptable air noise will result.
6. The indoor air probe wall plate should be mounted beside or directly above the Fireplace opening and route the blue tubing back to the bottom probe terminal on the VMASS-CTRL control. It is ok to mount this wall plate behind a TV as long as 4" clearance is maintained.
7. Try to position the system components as close as possible to reduce the distance when routing the blue tubing.

[ASHRAE 62.2 standards](#) require residential fresh air intakes to be located away from contamination sources. Intakes must be at least 10 feet from dryer vents, plumbing vents, and chimneys, and at least 2 feet above grade or roof decks to prevent drawing in polluted air. Air must come from outdoors, avoiding garages, crawlspaces, or attics.

Intake Air Hood Key Location Requirements

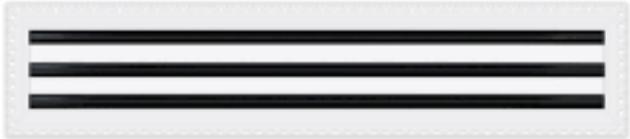
- **Separation Distances:** Install air intakes at least 10 feet (3 meters) away from hazardous or noxious contaminant sources, such as bathroom exhaust fans, kitchen exhaust, furnace/water heater flues, and plumbing vent pipes.
- **Elevation:** Intakes should be located at least 2 feet above grade or the immediate roof deck.
- **Source Restrictions:** Air must be taken from the outside and not from adjacent dwelling units, crawl spaces, unconditioned attics, or garages.
- **Contamination Avoidance:** Intakes must be positioned to avoid drawing in air from hazardous, unhealthy, or odorous areas.
- **Alternative Requirements:** In some jurisdictions, intake openings must be located at least 20 feet above ground level, although exceptions exist for certain residential (R-3) occupancies.
- **Best Practices for Intake Installation**
- **Placement:** Air inlets should be located on the wall, particularly if it helps meet the 3-foot minimum distance from certain exhaust points.
- **Screening:** Intakes should be covered with screens to prevent pests from entering the ductwork.
- **Protection:** Avoid placing intakes in areas where they might get blocked by snow or debris.

Always refer to local building codes

MAINTENANCE

1. The washable filter should be cleaned annually.
2. Confirm that the intake hood is clean and free of debris.
3. Ensure that the outdoor air probe is free and clear of debris.

Other diffuser style options: Select the style that best matches the space.
Minimum face velocity: 800 FPS.





**For Technical Support
800-642-2920**