

AirMaid[®] — General Submittal.

AirMaid[®] 5000V / 10000V / 20000V / 30000V

Version: 1.00



About this Document.

This document contains specifications and recommendations for the installation of the **AirMaid®** Ozone Cleaning System (hereafter referred to as The Generator). Always thoroughly read the Installation and Service Guide which accompanies the product before installing, operate, or perform maintenance on The Generator.

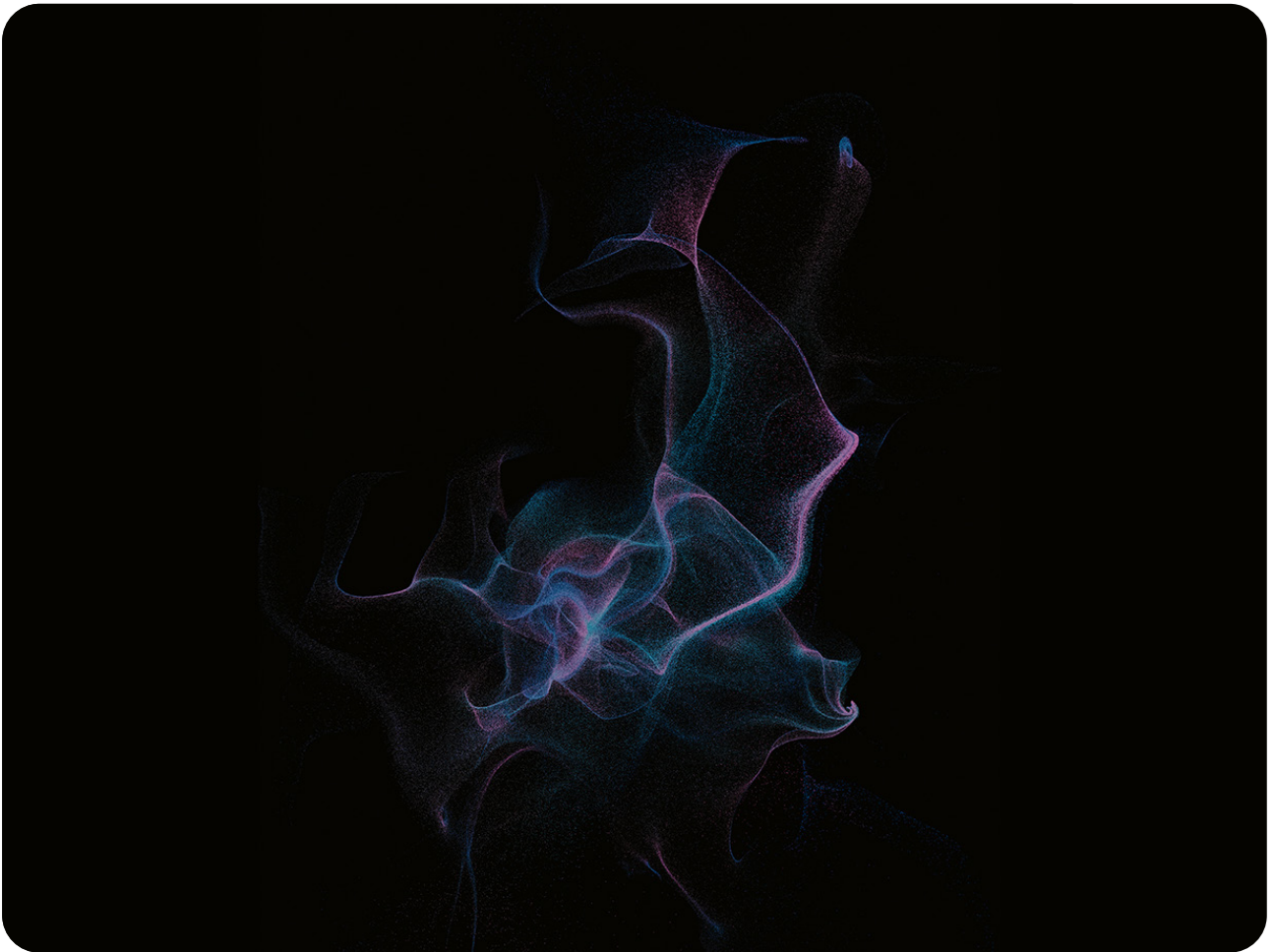
NOTE: We disclaim any unintentional errors in the text when translating from the original language of this document.



AirMaid® is ETL-listed by Intertek under file number 5028734, UL 867:2011 to conform the following standards: UL 867:2011, CAN/CSAE60335-1/4E:03 and CAN/CSA-E60335-2-65:11

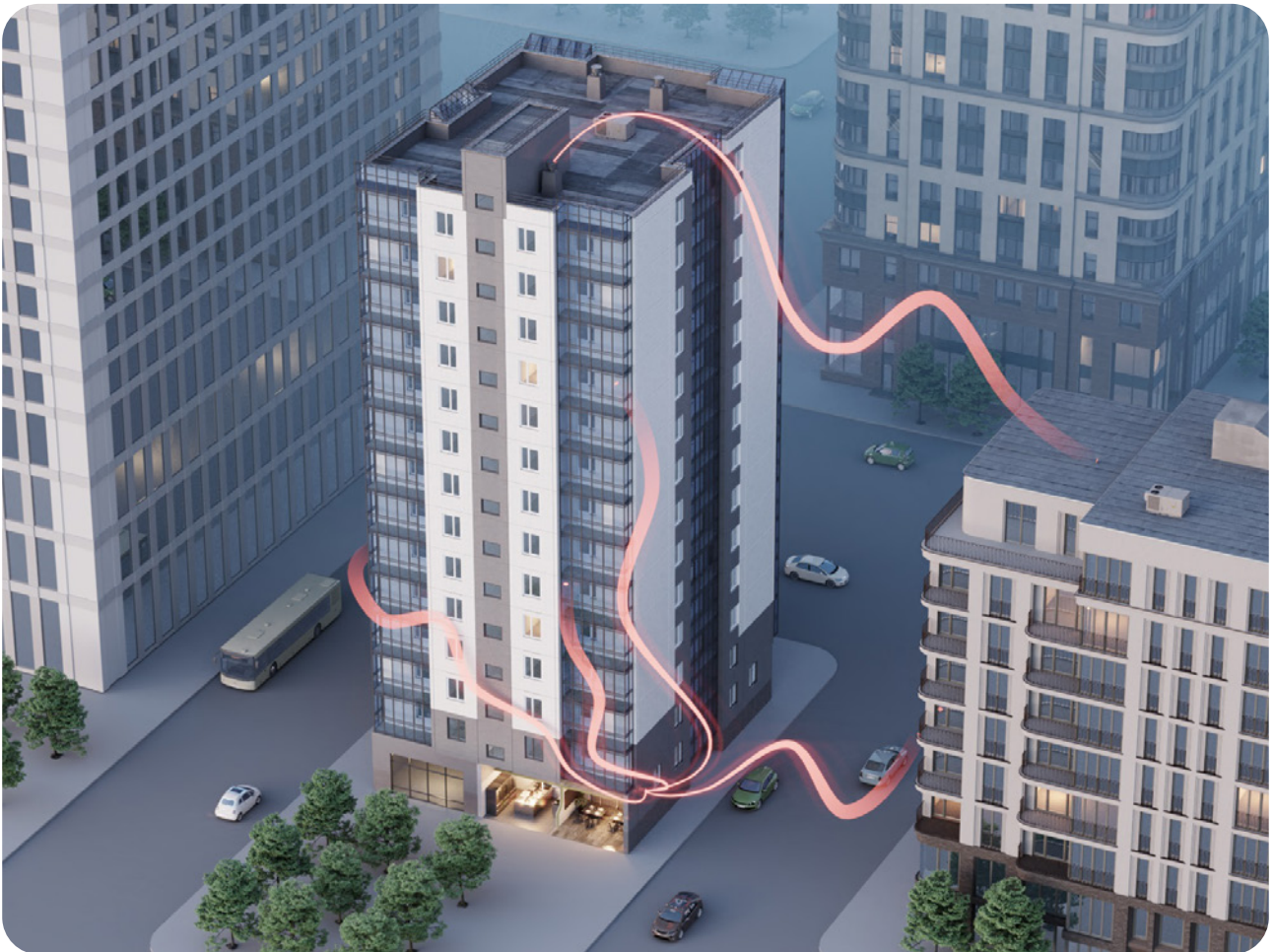
At **AirMaid**[®] we are **experts in odor and grease mitigation** in commercial kitchen exhaust systems.

With over 25 years of expertise & more than 16.000 units installed, **AirMaid**[®] is proven to be one of the most cost-effective solutions for odor & grease mitigation in commercial kitchen exhaust systems.



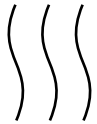
AirMaid® — We take on The Growing Global Challenge.

Preventing grease build-up is essential for keeping ducts clean and dry, and ensuring that odors are kept at a minimum. This not only reduces maintenance costs and needs with increased fire safety, but also contributes to a more pleasant environment, less harmful particles and happier neighbors.



Risk factors:

Why some cooking styles stand out.



High-heat cooking:

Woking at high temperatures causes oils to overheat and polymerize. This process happens when oil breaks down, forming longer molecular chains that stick to surfaces and each other.



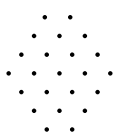
Aerosolization:

During wok cooking, oil can get aerosolized – broken up into tiny droplets that easily become airborne and stick inside the exhaust ductwork.



Oils:

Recipes using oils like sesame oil, which have distinct flavour, can produce more stubborn residues when heated at high temperatures.



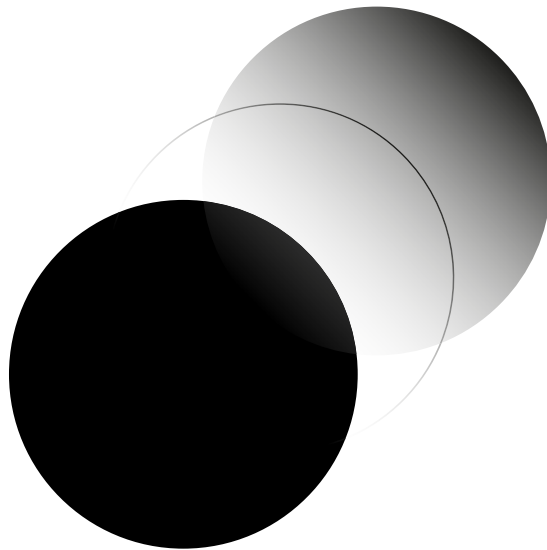
Sauces and seasonings:

Many cooking types involve sugar-based sauces and seasonings. When heated, they can caramelize, creating a sticky residue that is difficult to clean.

Unlike conventional methods that simply mask the odors, ozone **eliminates odors on a molecular level.**

When introduced into the kitchen exhaust airflow, ozone molecules collide with the odor-causing particles, **breaking them down into odorless substances** → Oxidation Process.

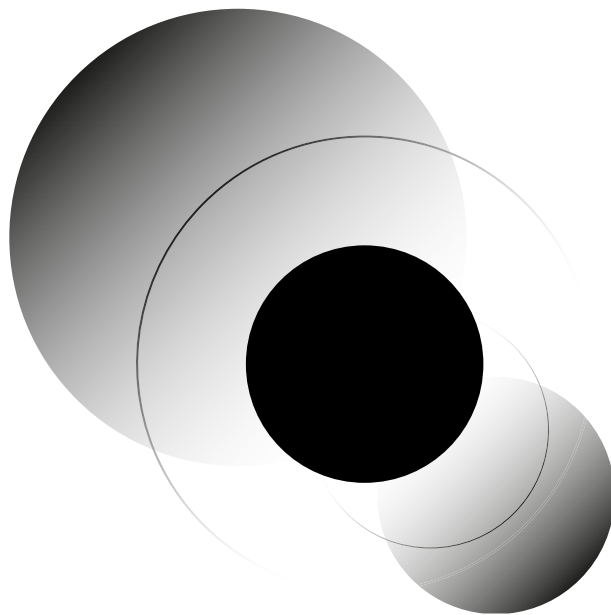
This oxidation process leaves behind fresh, clean air, **free from any unpleasant smells.**



When a grease molecule comes into contact with an ozone molecule, a chemical reaction known as **Ozonolysis** takes place.

This reaction **alters the structure of the grease** molecule, breaking its bonds and forming smaller molecules that eventually **evaporate or turn into water vapor and minerals**.

In the context of a kitchen duct airstream, this chemical reaction **decreases the buildup of grease** inside the ducts.



Documented cases with well-known partners such as [McDonald's](#) and [Burger King](#). Reducing odor to a minimum → Up to [95% reduction](#).

Grease, cooking oils and animal fats are long-chain hydrocarbons. When exposed to ozone these chains are slowly broken down by the continual process of oxidation, reducing a high percentage of them to water, carbon and dry minerals.

Cooking odors are sulphur and acetaldehyde-based compounds which are readily detected by the human nose. Ozone is highly reactive with sulphur, readily reducing these compounds, primarily to water and sulphites.



Standards:



AirMaid® is ETL-listed by Intertek under file number 5028734, UL 867:2011 to conform the following standards: UL 867:2011, CAN/CSAE60335-1/4E:03 and CAN/CSA-E60335-2-65:11

Material:

The generator chassis is manufactured from AISI 304 stainless steel and is comprised of a main housing, a bottom access cover with two latches (for access to perform the required routine maintenance), and a top electronics compartment cover (not for end-user service).

Make-up Airflow:

With the extraction fan running the make-up airflow through each inlet pipe of an AirMaid® generator must always fall within the specification: 65 ± 20 cfm (with a preferred target airflow of 75 cfm per inlet pipe). When used in conjunction with VAV/VSD systems, if the total make-up airflow through the **AirMaid®** generator drops below the minimum specification at the lowest extraction fan speed then power to air **AirMaid®** must then be cut off.

Static Pressure:

With the extraction fan running the Static Pressure inside the generator, when measured at the Pressure Check Point, must always fall within the specification: -0.08 inH₂O to -40 inH₂O. This is necessary for correct and reliable operation of the internal Pressure Safety Switch. When used in conjunction with VAV/VSD systems, the Static Pressure must fall within specifications even at the lowest extraction fan speed or the power to **AirMaid®** must then be cut off.

3-Second Minimum Dwell Time for Odor Reduction:

Ozone is an effective oxidant for reducing cooking odor within grease ducts of commercial kitchens. To obtain good odor reduction results with **AirMaid®** it is important that the ozone have enough time to react with the odor particles in the duct airstream. We call this "reaction time" or "dwell time" and is measured from the hood closest to the point of exhaust. We recommend a minimum dwell time of 3 seconds to obtain "good" results for the reduction of cooking odor. However, please keep in mind that a longer dwell time will often provide even better results.

Specifications:

AirMaid® 5000 V / 10000 V



AirMaid® 20000 V



AirMaid® 30000 V

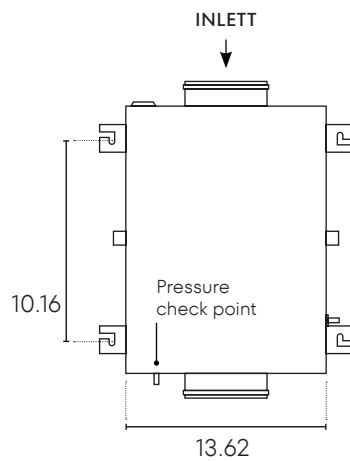
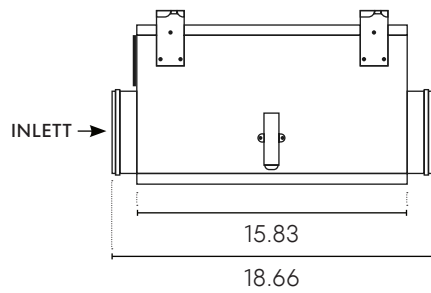
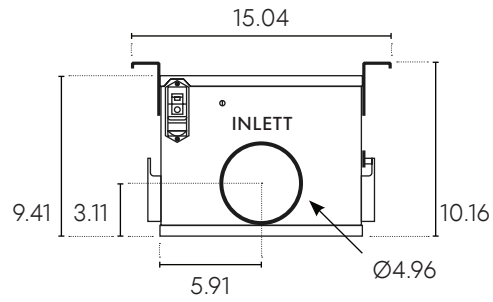


| AirMaid® | Article Number | Max Exhaust Flow | ^P Across Generator | Target Make Up Airflow |
|----------|----------------|------------------|-------------------------|------------------------|
| 5000 V | 10009 | 1500 cfm | 0,23 inH2O @ 31,78 cfm | 31,78 cfm |
| 10000 V | 10010 | 3000 cfm | 0,39 inH2O @ 63,57 cfm | 63,57 cfm |
| 20000 V | 10013 | 6000 cfm | 0,32 inH2O @ 127,14 cfm | 127,14 cfm |
| 30000 V | 10014 | 9000 cfm | 0,47 inH2O @ 190,70 cfm | 190,70 cfm |

| AirMaid® | Ozone Capacity | Power | Voltage | Main Breaker | Weight |
|----------|------------------|-------|-------------|--------------|--------|
| 5000 V | up to 5000 mg/h | 100 W | 120V / 60Hz | 15A Slow | 20 lbs |
| 10000 V | up to 10000 mg/h | 200 W | 120V / 60Hz | 15A Slow | 22 lbs |
| 20000 V | up to 20000 mg/h | 400 W | 120V / 60Hz | 15A Slow | 40 lbs |
| 30000 V | up to 30000 mg/h | 500 W | 120V / 60Hz | 15A Slow | 61 lbs |

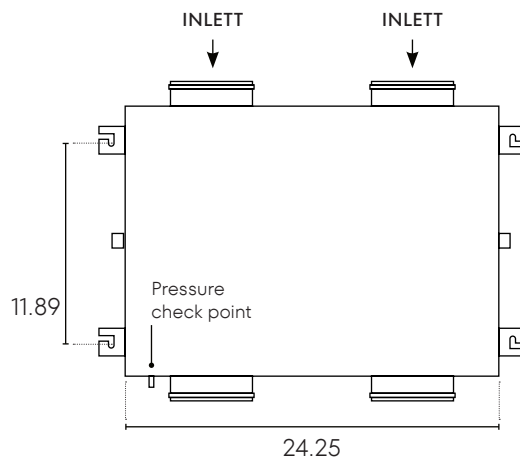
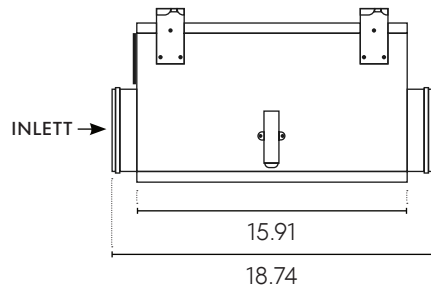
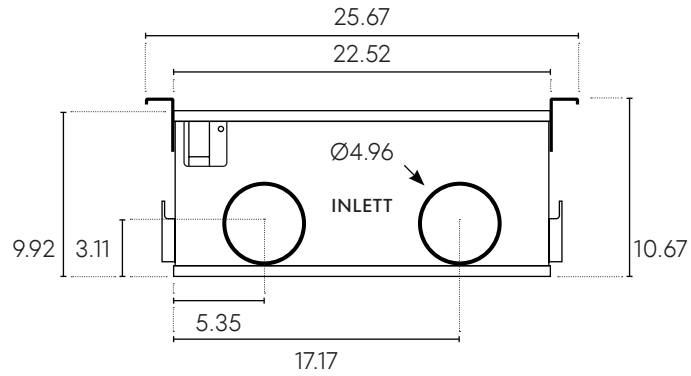
Dimensions: **AirMaid**® 5000 V and 10000 V.

NOTE: All dimensions shown are in units of inches.



Dimensions: AirMaid® 20000 V.

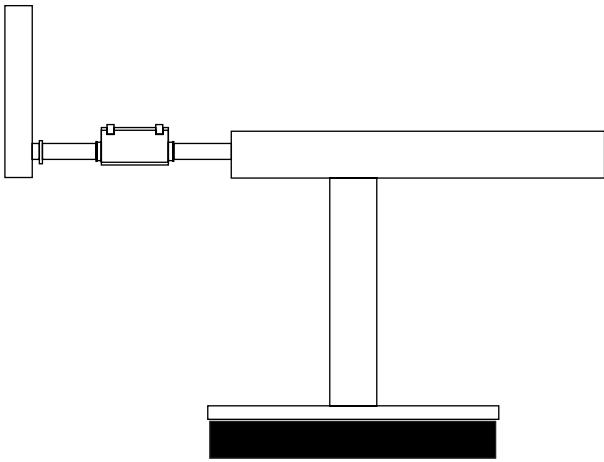
NOTE: All dimensions shown are in units of inches.



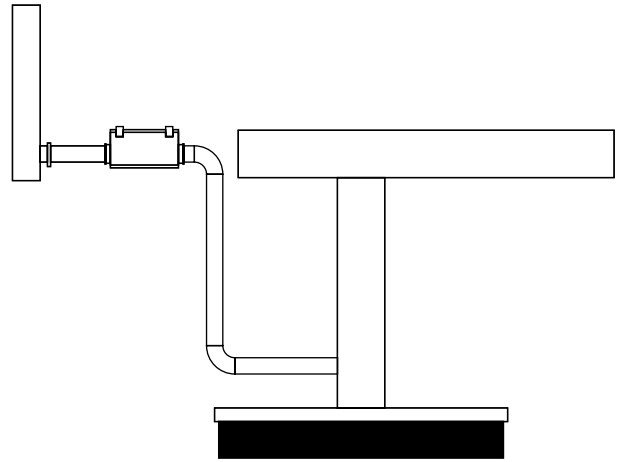
To get the **best results**, the connection pipe from the **AirMaid®** unit should be **inserted as early as possible** into the exhaust duct, according to these three examples.

Central Air Installation

Example 1

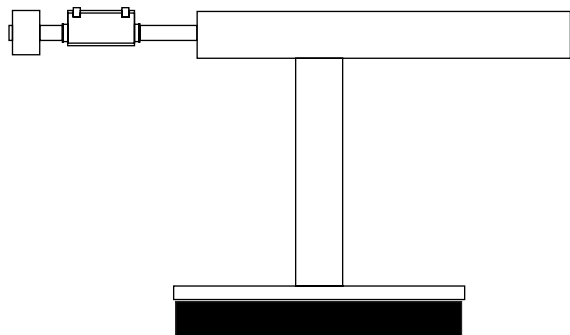


Example 2

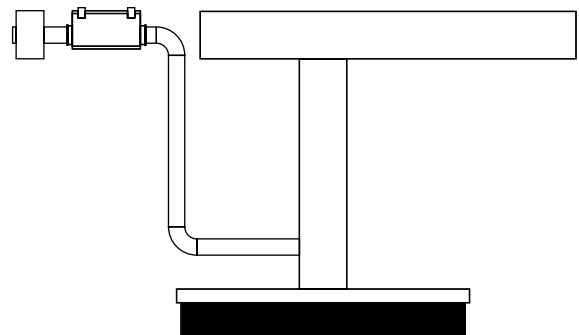


Filterbox Installation (Merv5 or better)

Example 1



Example 2



We recommend taking the make-up air preferably from the dining area.

Typical installation detail — (1/2).

AirMaid® Ozone Cleaning Systems are sold and delivered with an Alarm Panel. Installation materials are not provided by **Absolent CKV AB | AirMaid®**. The following typical installation detail is for example use only. Installation into a new or existing ventilation system must be properly exhausted to the outdoors and meet all local, state, and national building, electric, mechanical & fire safety codes.

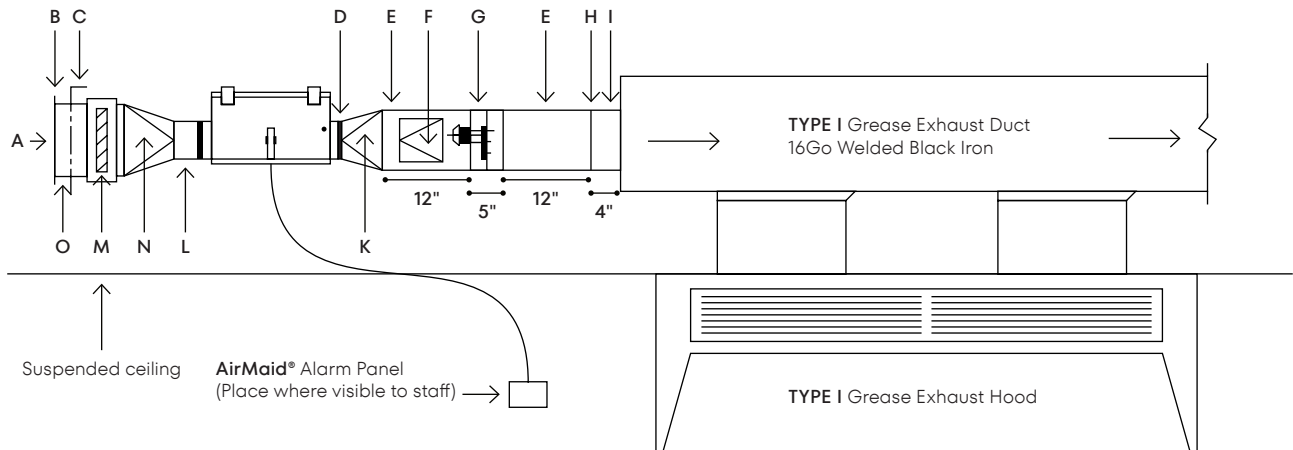
The document displayed below is available separately from your **AirMaid®** representative. NFPA 96 compliant, installed on the (clean air side) using make-up air to “fuel” the generator, installed before the fire damper.



AirMaid® is ETL-listed by Intertek under file number 5028734, UL 867:2011 to conform the following standards: UL 867:2011, CAN/CSAE60335-1/4E:03 and CAN/CSA-E60335-2-65:11

Typical installation detail for Filterbox Installation (Merv5 or better).

AirMaid® ozone cleaning systems are sold and shipped with an alarm panel. Installation materials are not provided by Absolent CKV. This typical installation detail is **for example use only**. Installation must meet all local, state and national building, electric and fire safety codes.



- A. Make-up Air from plenum — 75 CFM
- B. Wire mesh screen
- C. 10" x 10" Opposed blade, locking balancing damper
- D. 5"Ø T316 S.S Screwed slip-fit connection
- E. 8" x 8" 16Ga T316 S.S Welded duct
- F. 6" x 6" 16Ga T316 S.S Gasketed access panel
- G. 8" x 8" 16Ga T316 S.S Multi-blade, combination fire/control damper with actuator.
- H. See next page (p. 17)
- I. 8" x 8" Welded black iron stub with 1 inch flange
- J. To grease exhaust
- K. 5"Ø to 10" x 10" 16Ga T316 S.S Transition
- L. 5"Ø Galvanized ductwork
- M. Merv 5 filter and rack
- N. 10" x 10" Galvanized ductwork
- O. 10" x 10" to 5"Ø Galvanized metal transition

Control notes:

1. The **AirMaid®** unit operation shall be interlocked with the operation of the grease exhaust system.
2. Upon the activation of the ansul system:
 - The **AirMaid®** unit shall be commended off.
 - The associated fire/control damper shall close.

Note: The fire/control damper shall remain closed and the **AirMaid®** unit shall remain off until manually reset by the operator.

Sequence of operation:

When the kitchen exhaust system is initiated, the control damper shall be commanded open. When the damper is fully open the **AirMaid®** unit shall then energize. When the kitchen exhaust system is not in operation the **AirMaid®** unit shall remain off and the associated control damper closed.

Alarms:

When the **AirMaid®** system is energized, if either its internal pressure switch does not sense a negative static, or if an operational anomaly occurs, its external alarm panel will de-energize the generator and trigger an alarm status. The panel will periodically re-energize the generator and test for normal operation which will then clear the alarm.

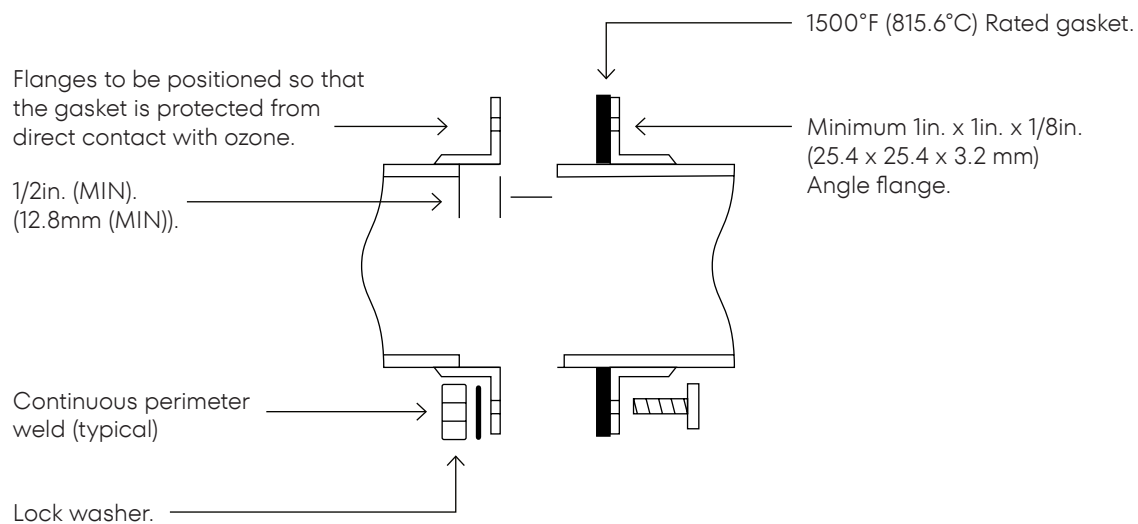


AirMaid® is ETL-listed by Intertek under file number 5028734, UL 867:2011 to conform the following standards: UL 867:2011, CAN/CSAE60335-1/4E:03 and CAN/CSA-E60335-2-65:11

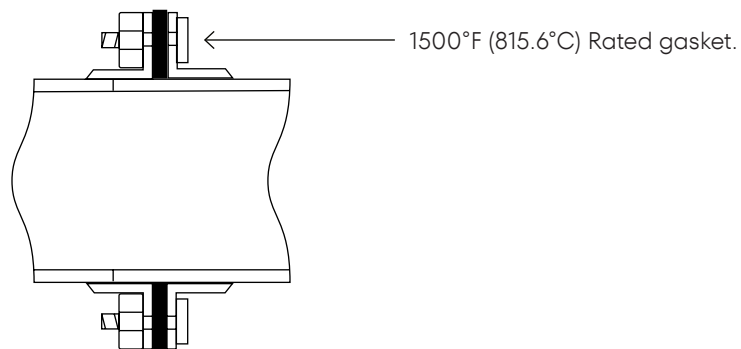
Typical installation detail for Filterbox Installation (Merv5 or better). (cont.)



1. Unassembled Position



1. Unassembled Position



Typical installation detail — (2/2).

AirMaid® Ozone Cleaning Systems are sold and delivered with an Alarm Panel. Installation materials are not provided by **Absolent CKV AB | AirMaid®**. The following typical installation detail is for example use only. Installation into a new or existing ventilation system must be properly exhausted to the outdoors and meet all local, state, and national building, electric, mechanical & fire safety codes.

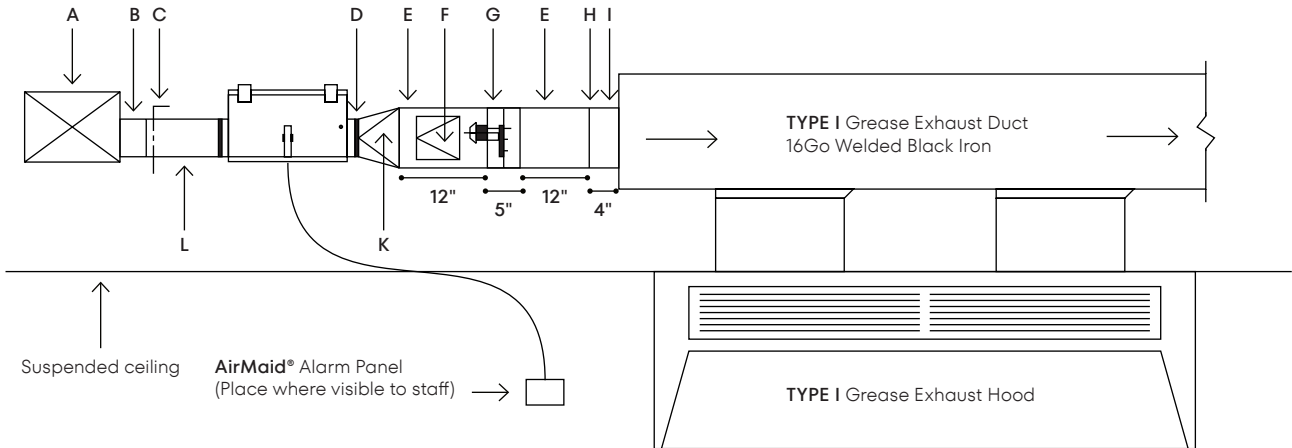
The document displayed below is available separately from your **AirMaid®** representative. NFPA 96 compliant, installed on the (clean air side) using make-up air to “fuel” the generator, installed before the fire damper.



AirMaid® is ETL-listed by Intertek under file number 5028734, UL 867:2011 to conform the following standards: UL 867:2011, CAN/CSAE60335-1/4E:03 and CAN/CSA-E60335-2-65:11

Typical installation detail for Central Air Installation.

AirMaid® ozone cleaning systems are sold and shipped with an alarm panel. Installation materials are not provided by Absolent CKV. This typical installation detail is **for example use only**. Installation must meet all local, state and national building, electric and fire safety codes.



- A. Filtered fresh air supply main — 75 CFM
- B. 45 Degree shoe
- C. 5" Round, locking balance damper
- D. 5"Ø T316 S.S screwed slip-fit connection
- E. 8" x 8" 16Ga T316 S.S Welded duct
- F. 6" x 6" 16Ga T316 S.S Gasketed access panel
- G. 8" x 8" 16Ga T316 S.S Multi-blade, combination fire/control damper with actuator.
- H. See next page (p. 20)
- I. 8" x 8" Welded black iron stub with 1 inch flange
- J. To grease exhaust fan
- K. 5"Ø to 10" x 10" 16Ga T316 S.S Transition
- L. Manufacturer recommend duct length of 36 inches

Control notes:

1. The **AirMaid®** unit operation shall be interlocked with the operation of the grease exhaust system.
2. Upon the activation of the ansul system:
 - The **AirMaid®** unit shall be commended off.
 - The associated fire/control damper shall close.

Note: The fire/control damper shall remain closed and the **AirMaid®** unit shall remain off until manually reset by the operator.

Sequence of operation:

When the kitchen exhaust system is initiated, the control damper shall be commanded open. When the damper is fully open the **AirMaid®** unit shall then energize. When the kitchen exhaust system is not in operation the **AirMaid®** unit shall remain off and the associated control damper closed.

Alarms:

When the **AirMaid®** system is energized, if either its internal pressure switch does not sense a negative static, or if an operational anomaly occurs, its external alarm panel will de-energize the generator and trigger an alarm status. The panel will periodically re-energize the generator and test for normal operation which will then clear the alarm.

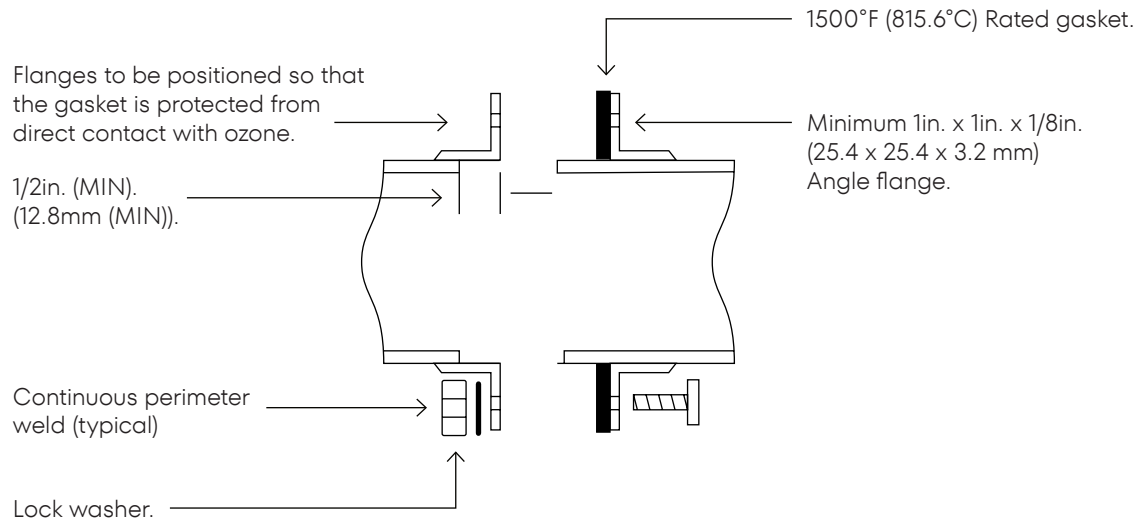


AirMaid® is ETL-listed by Intertek under file number 5028734, UL 867:2011 to conform the following standards: UL 867:2011, CAN/CSAE60335-1/4E:03 and CAN/CSA-E60335-2-65:11

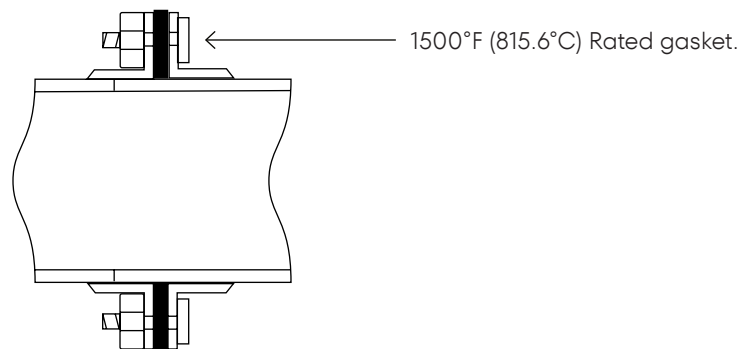
Typical installation detail for Central Air Installation. (cont.)



1. Unassembled Position

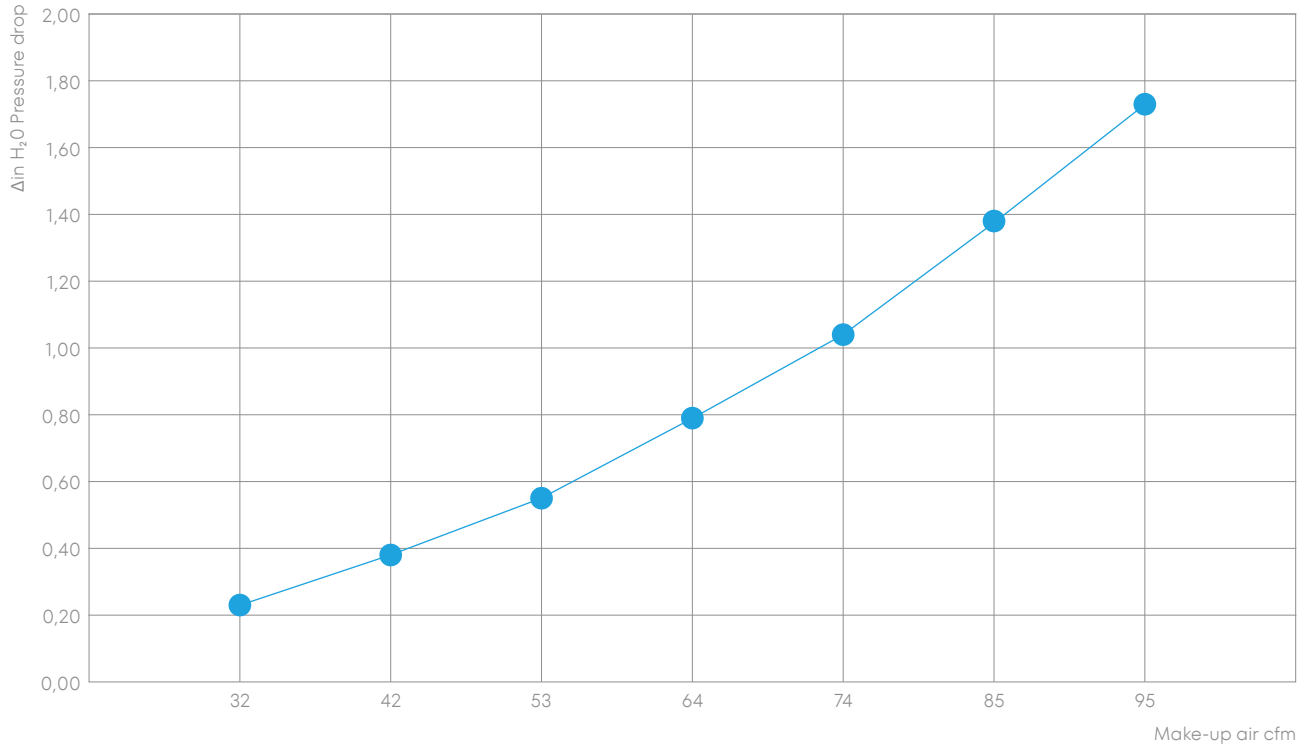


1. Unassembled Position

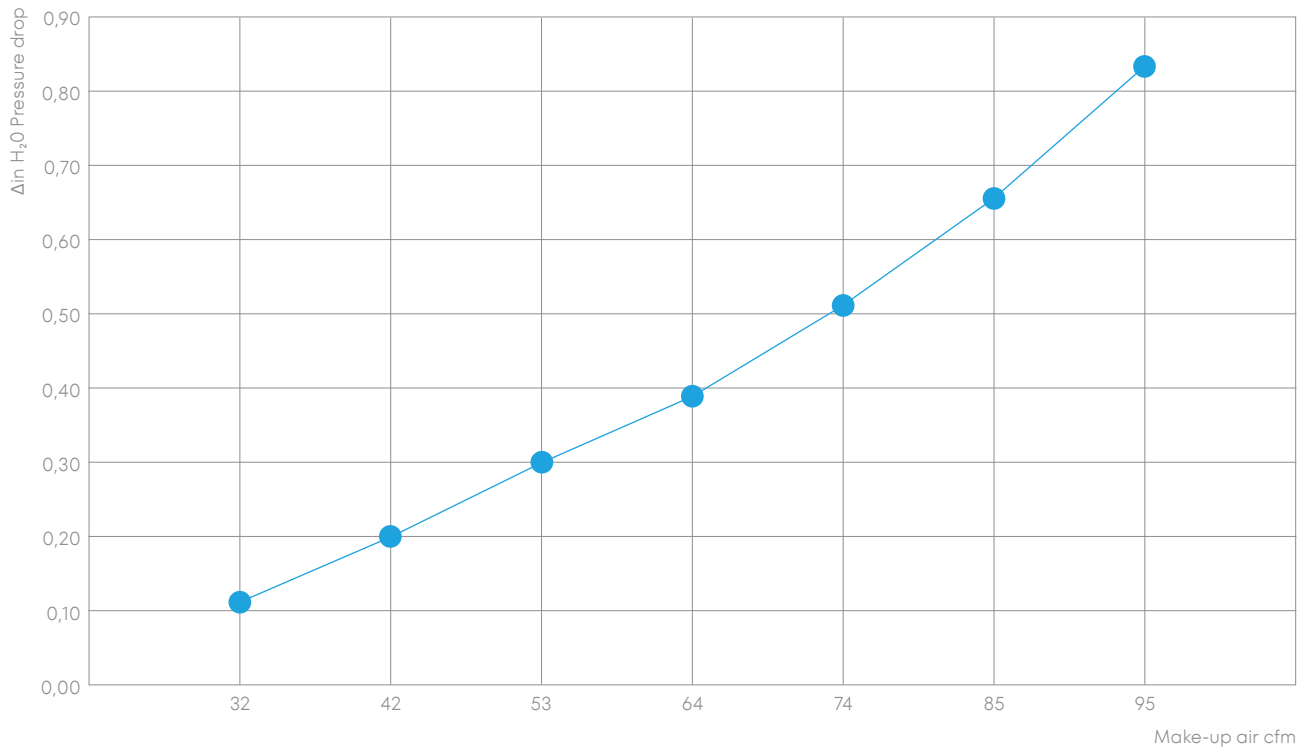


AirMaid® 5000 V and 10000 V Airflow Chart.

1. AirMaid® 5000 V

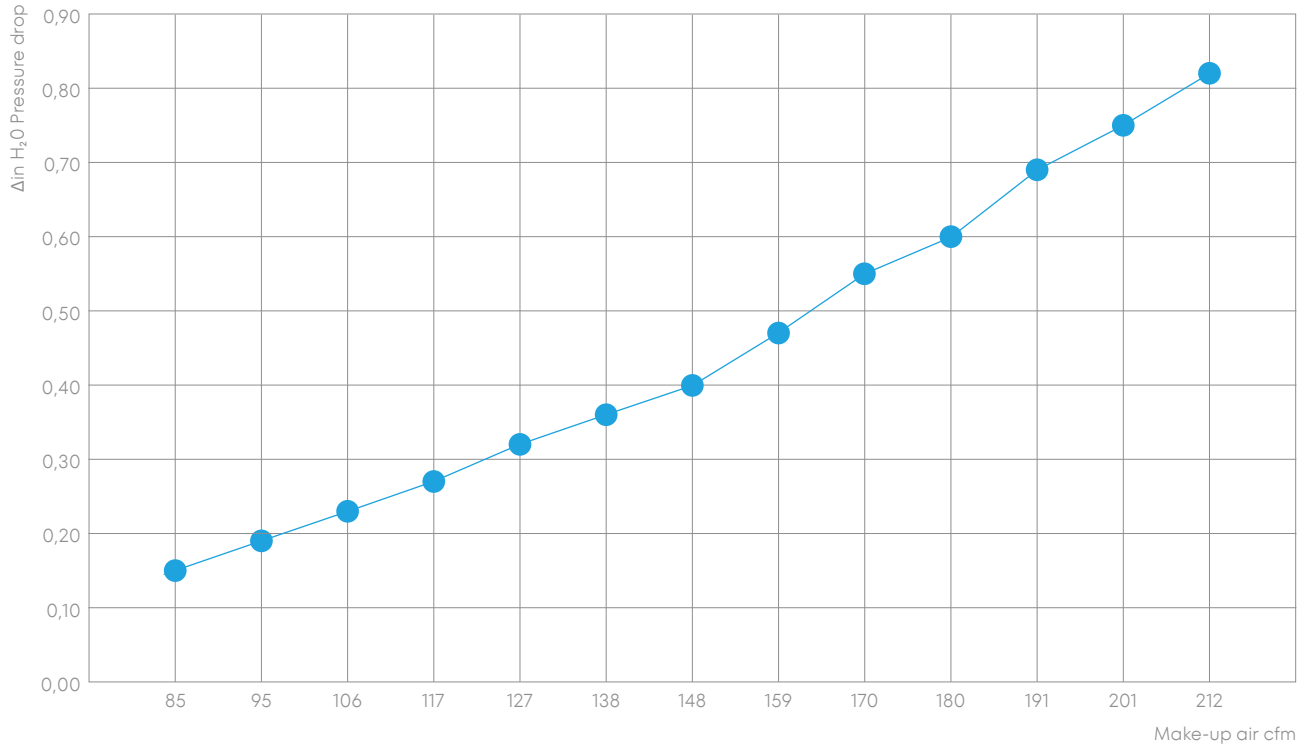


1. AirMaid® 10000 V

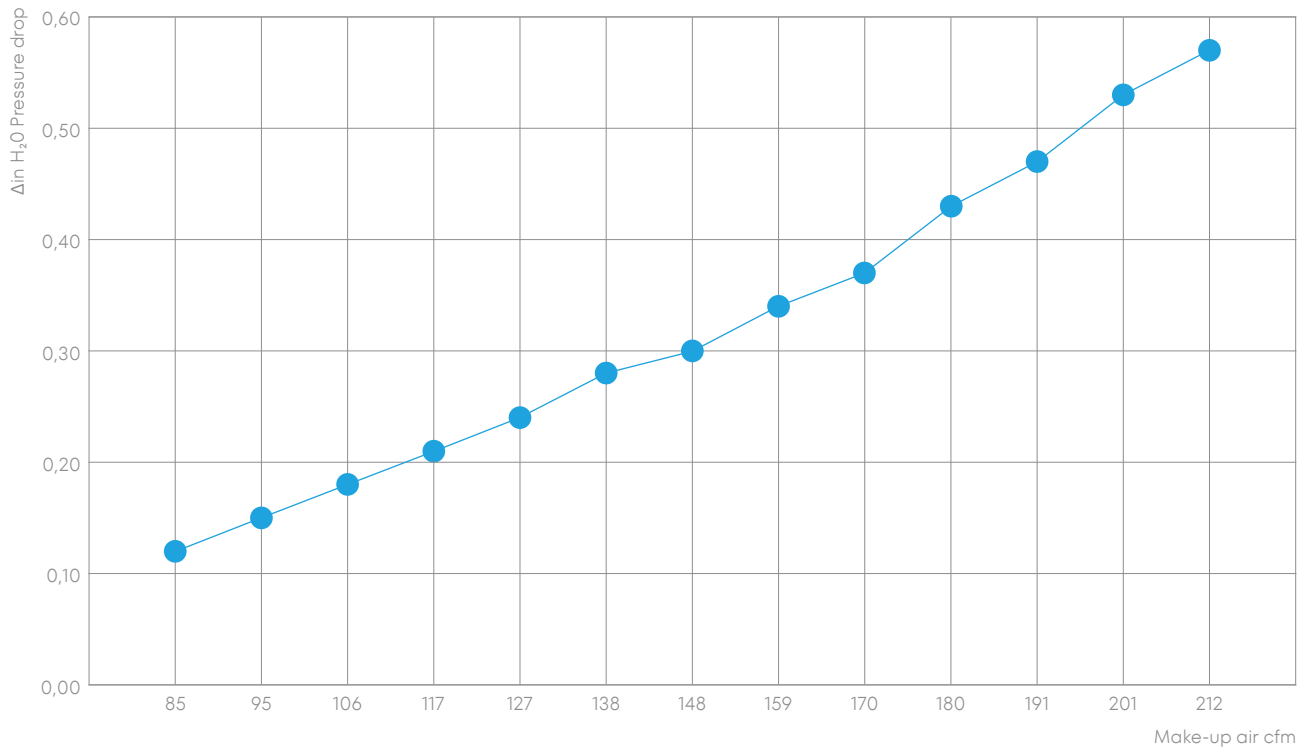


AirMaid® 20000 V and 30000 V Airflow Chart.

1. AirMaid® 20000 V



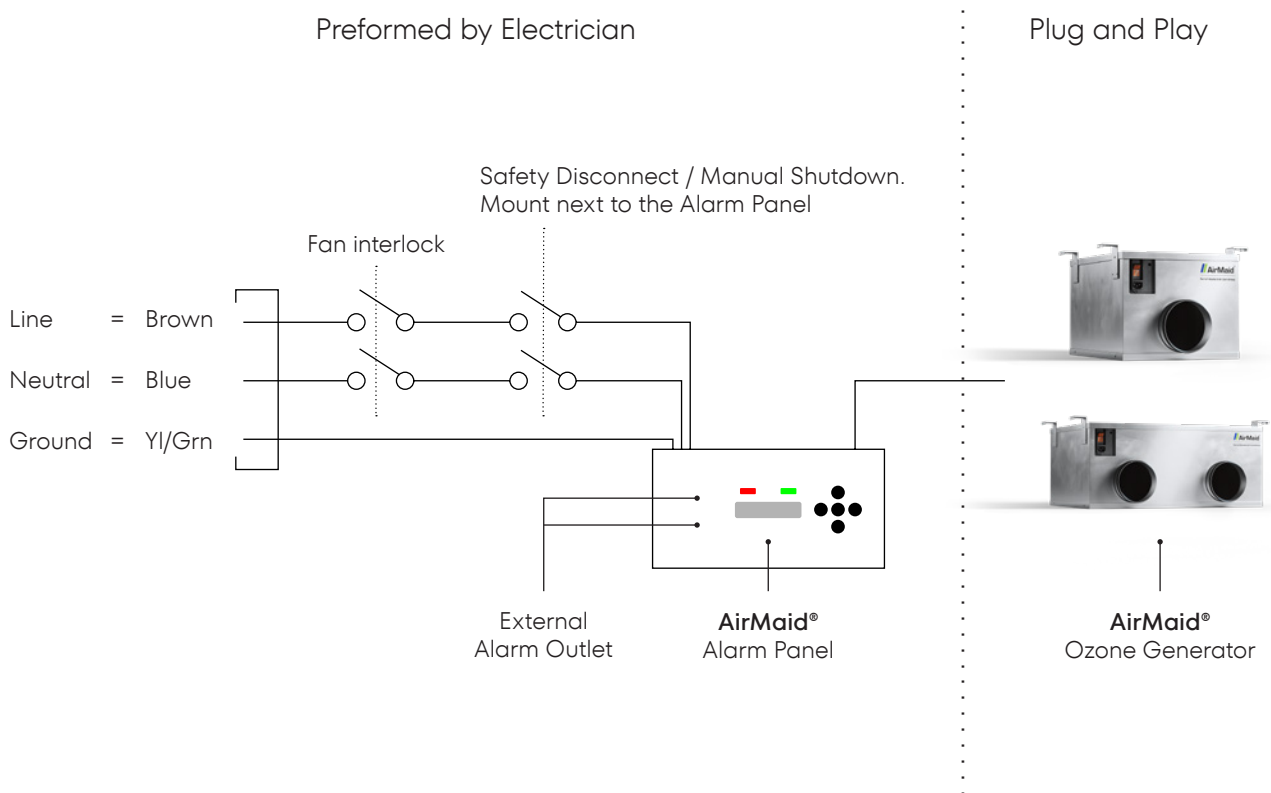
1. AirMaid® 30000 V



Electrical Connection.

The installation must be performed by an authorized electrician and follow national standards and regulations. The fan interlock displayed on the diagram below is mandatory. The purpose of the fan interlock is to shut off the main power to the generator when the exhaust fan is turned off. An all- pole safety disconnect with a break length of at least 3 mm must be installed as well. This switch is normally mounted nearby the Alarm Panel. The electrical requirements for the ozone generator are 120V AC and 60 Hz. Every generator must be connected to its own main breaker/fuse.

Important Note: Under no circumstances may the cable between the Alarm Panel and the Generator be tapped for any external electrical connections or control signalling.



Main breaker / fuse, all models: 15 A Slow
[External relay details on the next page](#)

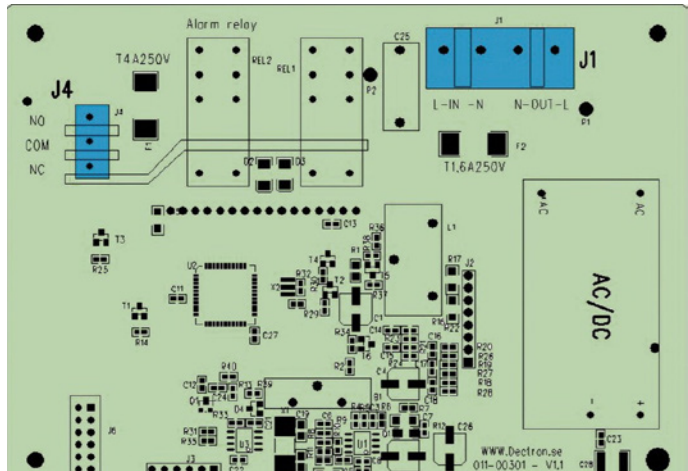
External Relay Connection.

If you desire to connect **AirMaid®** to an external monitoring or alarm system, you can accomplish this by connecting it to the external alarm terminal block within the **AirMaid®** Alarm Panel.

IMPORTANT! If the electrical cables are removed during installation, ensure that they are properly reconnected to the "IN" L/N terminals.

Connection to external alarm device. Voltage freerelay output.

NO = Normally open
COM = Common
NC = Normally closed



Summary:

Purpose: Cost-effective odor and grease mitigation in commercial kitchen exhaust systems.

.....

Function: Produces ozone (O³) to break down organic compounds such as grease and odor particles.

.....

Efficiency: Keeps ventilation ducts and air handling components dry and clean through a highly efficient oxidative effect.

.....

Odor Reduction: Requires a minimum reaction / dwell time of 3 seconds for effective odor reduction with up to 95% reduction achievable.

.....

Operation: Passive component connected to an existing exhaust system, activated by the negative pressure created by the exhaust fan. No additional components needed.

.....

Technology: AirMaid CGC[®] (Corona Glass Cell) for producing ozone through electrical discharge; minimum maintenance required (once or twice per year).

.....

Construction: Made of high-quality stainless steel.

.....

Scalability: Available in four sizes for air volumes up to 9000 cfm; multiple devices can be combined for larger volumes.

.....

Control: Operated by AirMaid[®] Alarmpanel, connectable to external monitoring or alarm devices. With the optional AirMaid[®] BACnet MS/TP Addon card, it can communicate with other devices within the same BACnet network in a facility management system.

.....

3D Drawings: 3D drawings of the units are available in MagiCad → magicad.cloud/products/

.....

NFPA 96 compliant: Installed on the (clean air side) using make-up air to “fuel” the generator, installed before the fire damper.

.....



AirMaid[®] is ETL-listed by Intertek under file number 5028734, UL 867:2011 to conform the following standards: UL 867:2011, CAN/CSAE60335-1/4E:03 and CAN/CSA-E60335-2-65:11

Airports around the US chooses **AirMaid**®.

We have a growing number of installations for AirMaid® at airports around the US. Today **AirMaid**® operates at La Guardia, Newark, and Logan Airport. More installations are planned for the coming years.

Where is **AirMaid**® already "Approved"

We have 24 reps. covering the majority part of the US and Canada. Please see airmaid.com/en/resellers for more information. **AirMaid**® is frequently used in the following cities, states:

- San Francisco, CA
- Los Angeles, CA
- New York, NY
- Boston, MA
- Cambridge, MA
- Tampa Bay, FL
- Houston, TX
- Austin, TX
- Atlanta, GA
- Nashville, TN
- Portland, OR
- Montreal, QC

We feel the **AirMaid**® product offers a level of fire safety for commercial kitchen exhaust systems well above that of the best operating "pollution control unit" (when those are properly maintained). For more information, please visit airmaid.com/en/us-market

AirMaid® is trusted by tens of thousands of restaurants, in more than 30 countries across the globe.

AirMaid® is installed in more than 400 McDonald's stores across Europe.

AirMaid's compact design makes it easy to install or retrofit. By reducing odors and preventing grease build-up, **AirMaid® improves fire safety, lowers maintenance needs and overhead costs**, all the while you can enjoy happier neighbors and save energy on heat recovery.



Reproduction, modification or translation without a prior written consent is forbidden with the exception of what is permitted by the Act on Copyright.

Original Instructions
Copyright Information
© 2025 Copyright Absolent CKV AB
Edition: 25.03.18 - US

Manufacturer:

Absolent CKV AB
Reprovägen 12, 2tr
SE-183 77 Täby, Stockholm
Sweden

info@absolentckv.com
airmaid.com

