



Installation, Operation and Maintenance Guide

Bioclimatic ActiveOx™ R Model

OUR MISSION

To improve health and wellness by actively restoring indoor air to its pure, natural state where no pollution or contaminants exist, while reducing energy use and emissions in the process.

IMPORTANT

Save this Document
for Future Reference &
Warranty Information



AtmosAir.com
CAG-24-04-006

!!IMPORTANT!

READ THIS BEFORE STARTING INSTALLATION.
DO NOT THROW AWAY THIS GUIDE.

For installation you **MUST**:

- ☒ Always disconnect power to the unit before handling any of the components.
 - ☒ DO NOT connect to the power before the installation is complete and personnel are aware of the imminent operation.
 - ☒ Carefully read this instruction booklet before beginning the installation.
 - ☒ Follow each installation or repair step exactly as shown and explained in this guide.
 - ☒ Observe all local, state, national and international electrical codes.
 - ☒ Pay close attention to all warnings and caution notices given in this guide.
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How to Contact Us: If you need help, please contact a
AtmosAir Solutions Representative for technical assistance.

!CAUTION!

Do not touch while in operation shut off electricity before servicing!

This equipment should be inspected frequently and collected dirt removed from it regularly to prevent excessive accumulation that may result in flashover or risk of fire.

!MISE EN GARDE!

Ne touchez pas pendant le fonctionnement couper l'électricité avant l'entretien

Cet équipement doit être inspecté fréquemment et la saleté collectée doit être retirée régulièrement pour éviter toute accumulation excessive pouvant entraîner un court-circuit ou un risque d'incendie.

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01 INTRODUCTION

1.1 Disclaimer

These instructions are submitted with the implicit understanding that:

1. This manual is to guide the user of AtmosAir Solutions equipment in the proper installation, operation, and maintenance procedures to insure maximum equipment life with efficient operation.
2. The customer has assigned competent maintenance and operating personnel to the system described herein and will assume operational and maintenance responsibility upon start-up of the system.
3. The customer will read and thoroughly examine the foregoing instructions and will notify the seller of any points not fully understood, points of conflict or error.
4. The customer, in lieu of any notification to the contrary, has read and fully understands the operation of the system and is aware of the hazards of corrosion, abrasion and fire or explosion and shall take the necessary steps in the operation of equipment to control such hazards to the maximum extent possible.
5. Start-up assistance or field engineering service provided by AtmosAir Solutions shall in no way relieve the customer of responsibility for the proper operation of the system.



IMPORTANT: Any modifications to the unit by unauthorized personnel will void factory warranty. The unit must be installed in accordance with the manufacturer's instructions to preserve warranty.

1.2 Receiving

Products leaving the AtmosAir Solutions factory are inspected and in satisfactory operating condition. All equipment should be thoroughly inspected when received. Although all units are properly packaged, rough handling in transit can cause breakage. Any shortage or damage should be reported at once to the transportation company. Note the damage on the bill of lading before signing for the shipment. No equipment may be returned to AtmosAir without written authorization. Returned equipment sent without authorization will be refused and returned to sender.

All products are shipped F.O.B. (Ex Works, FCA) AtmosAir warehouse. Responsibility for all equipment passes to the buyer at the time equipment is loaded onto the carrier's truck.

1.3 Storage

If the generator unit(s) are not installed upon delivery, it should be stored in a cool, dry, weather protected location. Do not stack any other equipment on top of the unit.

Continue on Next page

1.4 Warranty

THE SELLER WARRANTS BI-POLAR IONIZATION PRODUCT (EQUIPMENT) AGAINST DEFECTIVE WORKMANSHIP AND MATERIAL FOR **2 YEARS** FROM DATE OF FACTORY SHIPMENT. THE SOLE OBLIGATION OF SELLER SHALL BE TO REPAIR OR REPLACE, AT ITS OPTION, F.O.B. ITS FACTORY, ANY PART OR PARTS WHICH ARE RETURNED F.O.B. ITS FACTORY, SHIPPING CHARGES PREPAID, AND WHICH AFTER INSPECTION BY SELLER ARE FOUND TO BE DEFECTIVE. BUYER SHALL NOTIFY SELLER OF DEFECT IN WRITING, PROMPTLY UPON DISCOVERY AND WITHIN THE WARRANTY PERIOD. THIS WARRANTY DOES NOT COVER DEFECTS CAUSED BY CORROSION OR NORMAL DETERIORATION; IT DOES NOT EXTEND TO CONSEQUENTIAL DAMAGE, LOSS OR DELAY ASSOCIATED WITH A WARRANTY DEFECT; AND IT DOES NOT COVER ANY COST OF LABOR, TRAVEL, OR OTHER EXPENSE ASSOCIATED WITH THE REPAIR OR REPLACEMENT OF DEFECTIVE PARTS. SELLER ASSUMES NO LIABILITY FOR PRODUCT LOSS OR OTHER CLAIMS WHATSOEVER ARISING OUT OF THE USE OR APPLICATION OF THE EQUIPMENT IN ANY OPERATIONS, WHETHER THE EQUIPMENT IS USED ALONE OR IN CONJOINT USE WITH OTHER EQUIPMENT OR PROCESSES. NOTWITHSTANDING THE FOREGOING, SELLER'S WARRANTY OBLIGATIONS WITH RESPECT TO ANY ITEMS NOT MANUFACTURED BY SELLER SHALL NOT EXCEED THE OBLIGATIONS UNDERTAKEN BY THE MANUFACTURER THEREOF UNDER EXPRESS WARRANTY TO THE SELLER.

THIS EXPRESS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES OF FITNESS OF THE MACHINE FOR ANY PARTICULAR PURPOSE. THERE ARE NO OTHER REPRESENTATIONS, WARRANTY OF CONDITION IN ANY RESPECT EITHER EXPRESS OR IMPLIED, STATUTORY OR OTHERWISE IN CONTRACT OR TORT, OTHER THAN WHAT IS STATED ABOVE.

THE SELLER SHALL NOT BE HELD LIABLE IN ANY WAY FOR CONSEQUENTIAL DAMAGES, HOWEVER CAUSED.

THIS WARRANTY WILL NOT APPLY IF THE SELLER'S EQUIPMENT HAS BEEN DAMAGED DUE TO IMPROPER INSTALLATION, ALTERATION, ABUSE OR MISUSE, ACCIDENT, FIRE, FLOOD OR ACT OF GOD. FURTHER, THIS WARRANTY WILL NOT APPLY IF REPAIRS, REPLACEMENTS, OR ALTERATIONS ARE MADE BY OTHERS WITHOUT THE SELLER'S PRIOR WRITTEN AUTHORIZATION.

IN THE EVENT THE STATE IN WHICH THE EQUIPMENT IS INSTALLED DOES NOT PERMIT THE LIMITATION OR EXCLUSION OF IMPLIED WARRANTIES OR CONDITIONS UNDER GIVEN CIRCUMSTANCES, THE PROVISIONS OF THIS WRITTEN WARRANTY ARE IN ADDITION TO AND NOT A MODIFICATION OF THE STATUTORY WARRANTIES AND OTHER RIGHTS AND REMEDIES PROVIDED BY SUCH LAWS.

NOTES: "ANY MODIFICATION OR UNAUTHORIZED REPAIR TO ORIGINAL EQUIPMENT BY ANY COMPANY OR PERSON OTHER THAN THE MANUFACTURER WILL SERVE TO VOID THE SELLER'S LIABILITY UNDER THE MANUFACTURER'S WARRANTY. ION GENERATOR, MODULES AND CONTROL ENCLOSURES CONTAINING ELECTRONIC COMPONENTS ARE SEALED TO PREVENT UNAUTHORIZED TAMPERING OR ADJUSTMENTS. ONLY AUTHORIZED SERVICE PROVIDERS MAY BREAK SEALS TO COMPLETE CALIBRATION OR REPAIRS. UNAUTHORIZED TAMPERING OR BREAKING SEALS WILL RELEASE THE SELLER FROM ANY AND ALL LIABILITY UNDER THIS WARRANTY."

Disclaimer: The air purification technologies provided by Clean Air Group are intended to improve indoor air quality. They are not intended as a replacement for reasonable precautions aimed at preventing the transmission of contaminants, airborne or otherwise. All persons having access to the serviced premises should comply with applicable public health laws and guidelines issued by federal, state and local governments and health authorities such as the Centers for Disease Control and Prevention (CDC). Clean Air Group does not maintain that its products will protect people from all modes of transmission of bacteria, viruses or other contaminants, and excludes liability for loss or damage arising from any such claims or the consequences arising out of the application, use or misuse of its products.

02 PHYSICAL DESCRIPTION & THEORY OF OPERATION

2.1 Principle of Operation

The Bioclimatic ActiveOx™ ionization generator rail is designed specifically for plenum mounting. Generator rails are normally installed in the supply air side of an air handling unit following the final filter. Alternatively, they can be installed in return plenum.

2.1.1 Bioclimatic ActiveOx™ Bi-Polar Ionization Unit

The Bioclimatic ActiveOx™ generator rail is a Bi-Polar ionization device. The generator produces synchronized bipolar ionization of an air stream whose flow is perpendicular to the axis of the emitter pair. Depending upon the volume of air, chemical and biological content, ionization is factory pre-set to CFM airflow rating by means of local control to affect density sufficient to produce the desired volumetric air purification. Externally, the generator rail includes ionization modules, indicator light fuse, toggle switch, junction box power umbilical, wiring, and mounting chassis.

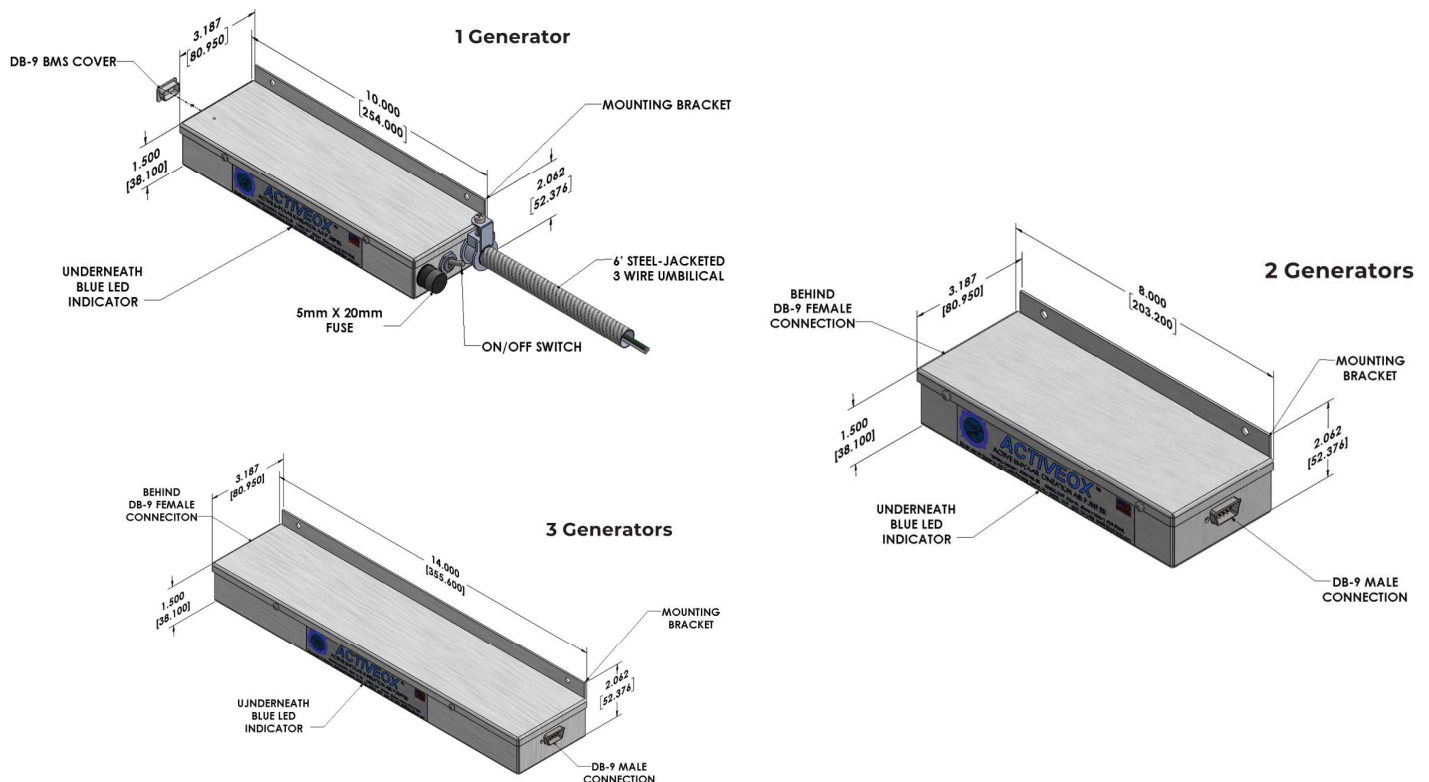
2.1.2 System Regulation

Power input to ionization generators is not adjustable.

2.1.3 Building Management System Control (BMSC)

The Bioclimatic ActiveOx™ generator rail has the option for a control box for building management system (BMS) or building automation system (BAS) interface.

The BMS (BAS) dry contact may be wired in series with multiple control boxes.



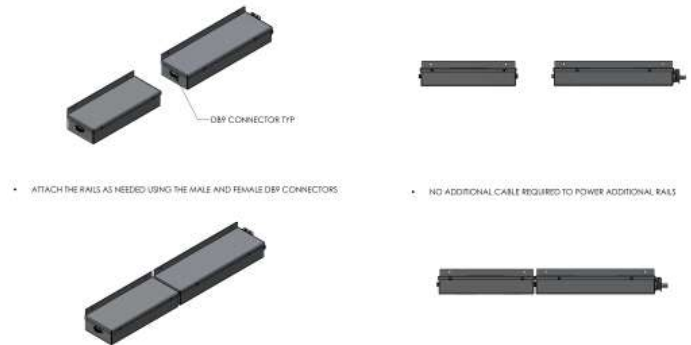
03 INSTALLATION

3.1 Installation

Install the rail assembly in accordance with the following guidelines.

3.1.1 Ionizers must be accessible for future service.

3.1.2 The rail must be installed such that the air blows across the face of the ionizer modules perpendicular to the emitter electrodes and to an imaginary line that bisects both emitters as indicated by the arrows below.



Note: Up to 26 generators can be daisy-chained together on the same power supply. Rail sizes vary upon generator quantity.



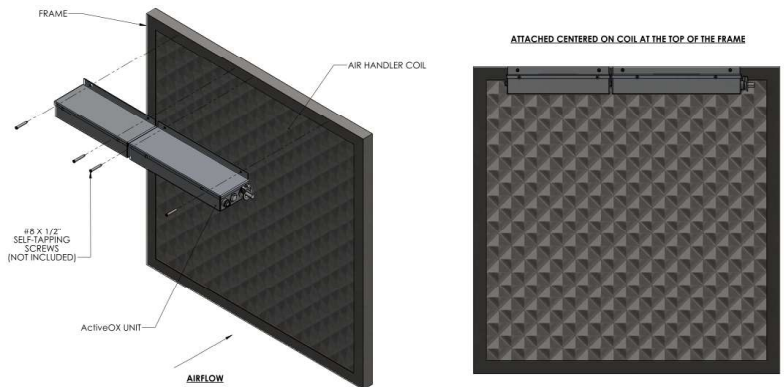
CAUTION: Do not attempt to connect the generator unit(s) across multi-phase 3 or 4 wire circuits or across any electrical service in which pole to pole voltage exceeds 240 Volts. RMS.

3.2 Initial Setup

Generator rails are normally installed in the supply air side of an air handling unit following an air filter either at the top of a cooling coil (air entering side) or in the supply area. Alternatively, they can be installed in the return plenum. A minimum MERV 8 rated prefilter is required.

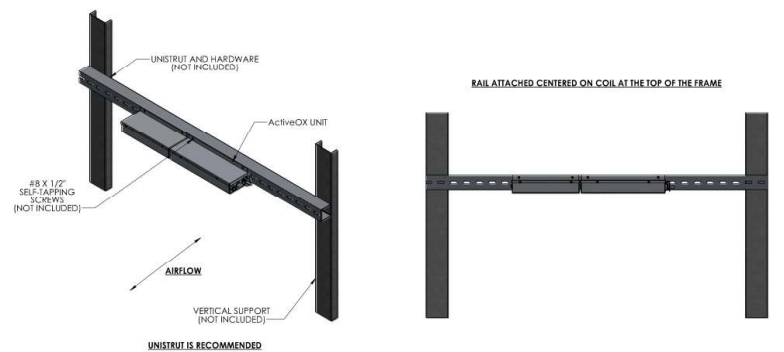
Minimum clearances between filter and generator rails and cooling surfaces shall be four inches (101 mm).

Rail assemblies require a minimum of three inches in the direction of airflow.



3.3 Wiring

Connect wiring to the Bioclimatic ActiveOx™ generator rail(s) following the specific wiring diagram for the application (see next page).



04 OPERATION

To start the generator rail(s), it is necessary to provide the appropriate supply voltage. The blue LEDs on the individual generator modules will illuminate when energized. To turn off the system – turn the power switch to the “Off” position.

05 MAINTENANCE

Frequent and extensive maintenance is typically not required. However, for best performance AtmosAir Solutions recommends semi-annual inspections to be sure the modules are free of debris. As a best practice, the modules can be cleaned using a compressed gas duster (as used to clean electronic equipment) or a cotton swab or small stiff brush (similar to an artist brush). Units must be de-energized for cleaning and maintenance. Caution should be taken not to damage or bend the emitters.



WARNING: DO NOT ATTEMPT TO REPLACE ANYTHING WHILE POWER TO THE SYSTEM IS ON. DISCONNECT ALL POWER SOURCES BEFORE SERVICING ANY UNIT.

06 TROUBLESHOOTING GUIDE

Always refer to the specific wiring diagram for the specific job being serviced.

6.1 The Bioclimatic ActiveOx™ Generators Will Not Energize

Possible Cause:	Possible Solution:
Facility circuit breaker is tripped or turned off.	Check the circuit breaker and reset it if necessary.
There is a faulty wiring connection between the circuit breaker and the generator.	Ensure all wiring connections between the circuit breaker and generator are secure and correct.
Check the fuse located next to the power switch.	Replace with an identical T 630mA Glass 5mm x 20mm (FST) fuse.

07 SPECIFICATIONS

7.1 Electrical

Power Requirement: 24 VAC or 100/240 VAC

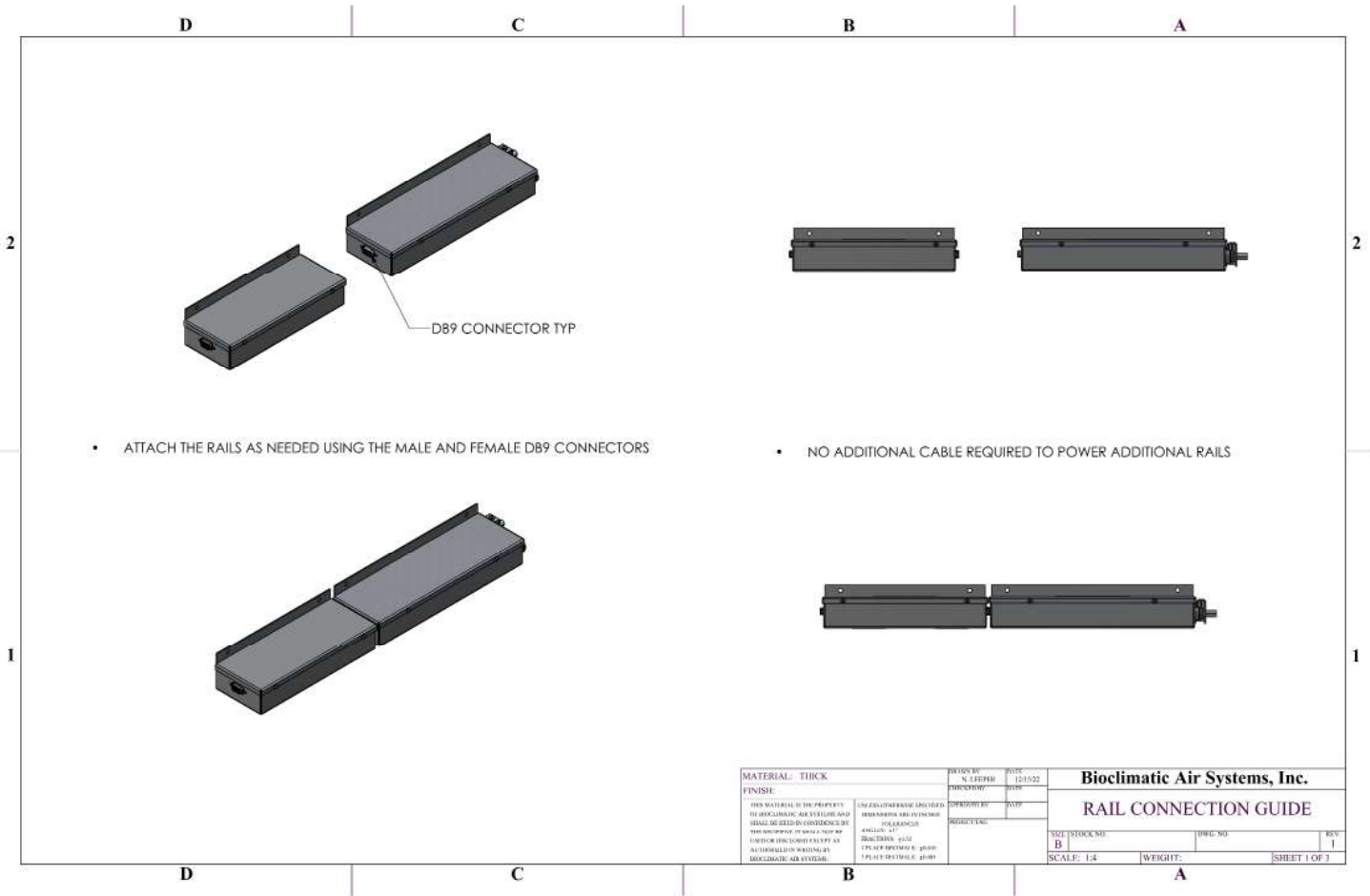
Power Consumption: 0.5 Watts

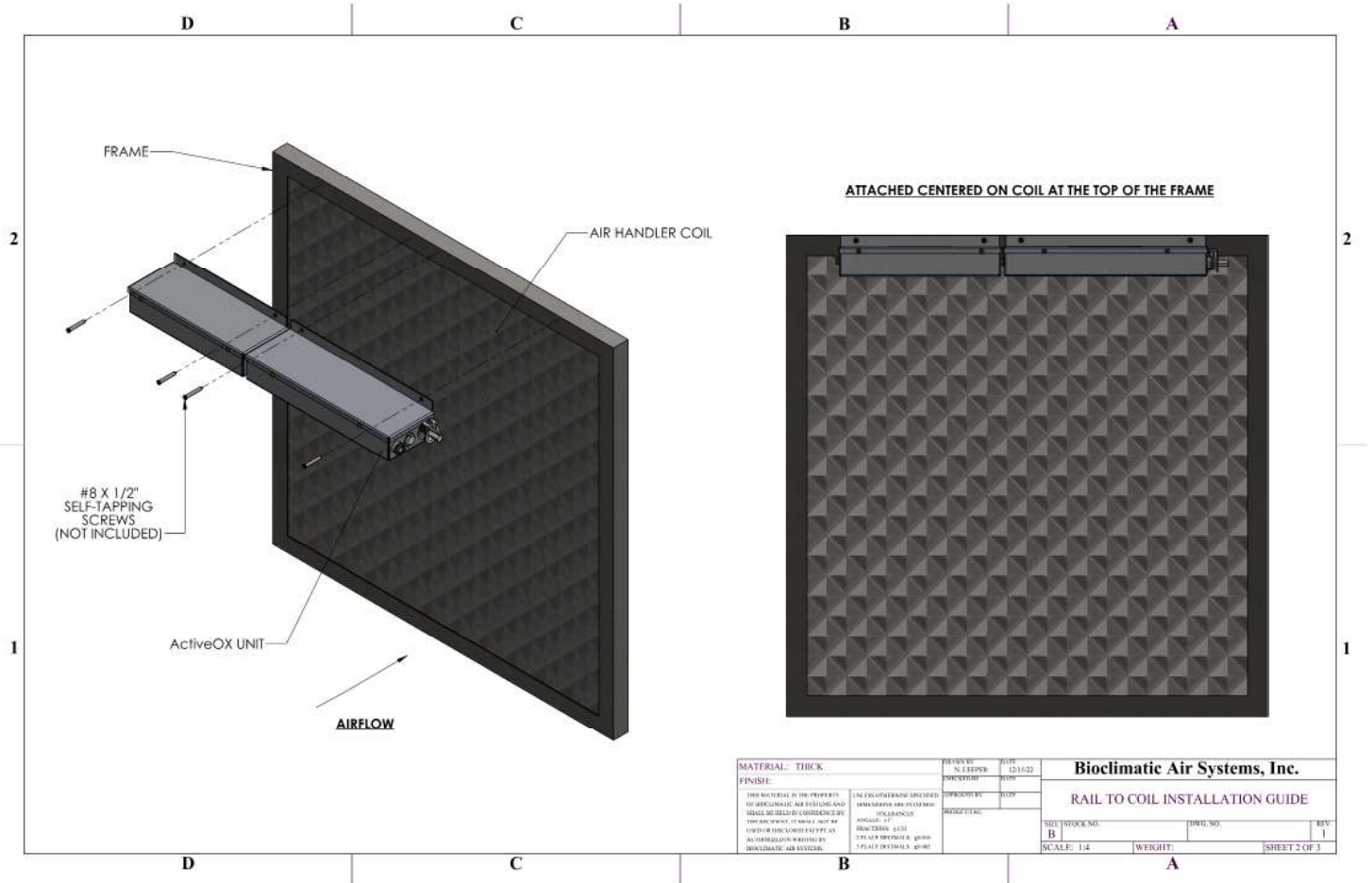
Max Operating Temperature: + 70° C

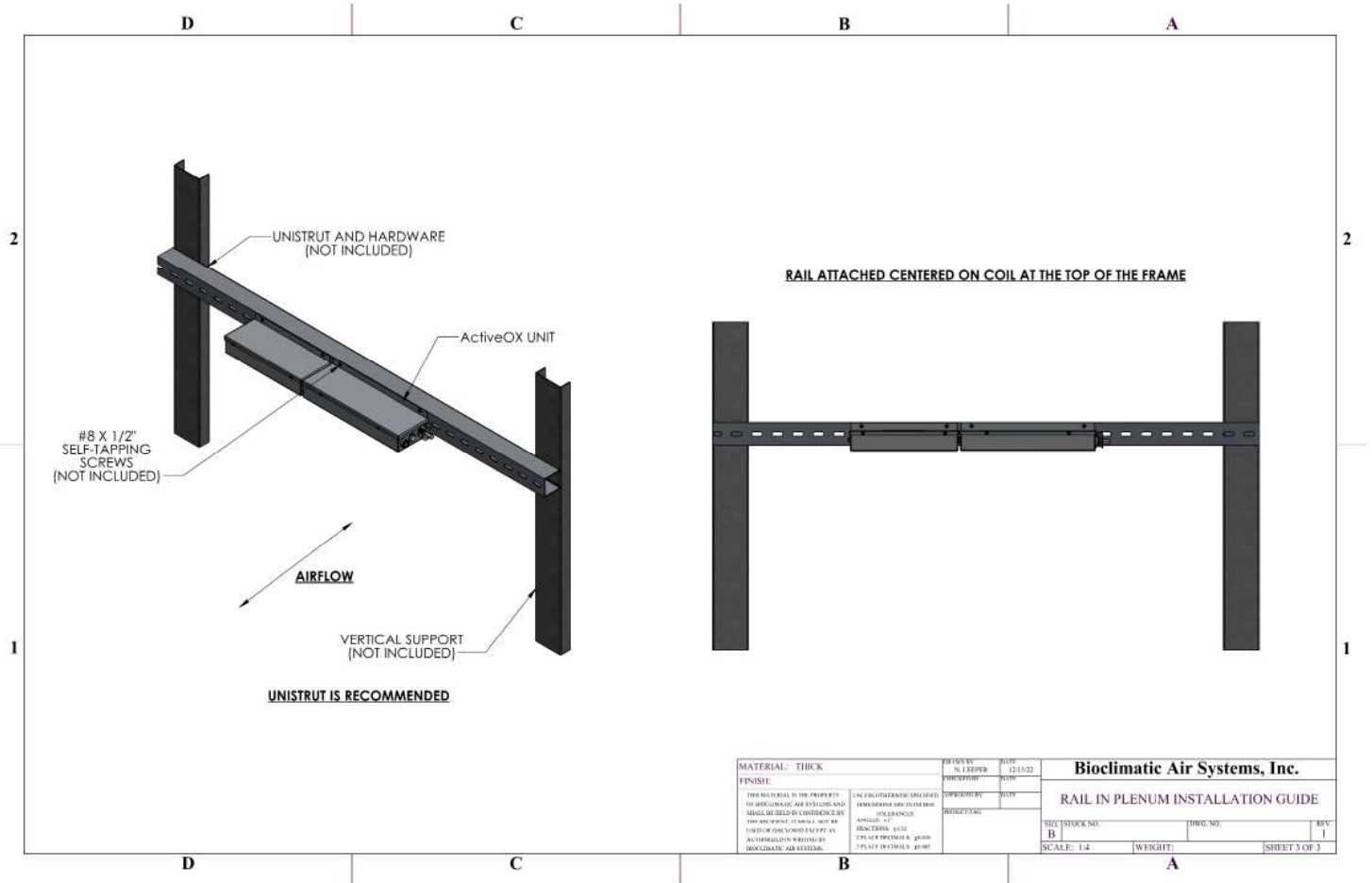
Humidity Range: 0 - 93% non-condensing

7.2 Mechanical

Environment: **Indoor only**







08 PRODUCT NUMBERS*

Stock Numbers	AOX_R03_24V AOX_R03_MV	AOX_R04_24V AOX_R04_MV	AOX_R05_24V AOX_R05_MV	AOX_R06_24V AOX_R06_MV	AOX_R07_24V AOX_R07_MV	AOX_R08_24V AOX_R08_MV	AOX_R09_24V AOX_R09_MV	AOX_R10_24V AOX_R10_MV
Capacity (cfm)	3,750	5,000	6,250	7,500	8,750	10,000	11,250	12,500
Overall Length	18" (457mm)	24" (610mm)	26" (660mm)	32" (813mm)	38" (965mm)	40" (1016mm)	46" (1168mm)	52" (1321mm)
Module Quantities Used								
AOXR1PS-24V AOXR1PS-MV	1	1	1	1	1	1	1	1
AOXR2	1	0	2	1	0	2	1	0
AOXR3	0	1	0	1	2	1	2	3
Total Ion Gens	3	4	5	6	7	8	9	10
Power								
FLA @ 24VAC	0.082	0.105	0.127	0.149	0.170	0.194	0.210	0.230
FLA @ 120VAC	0.035	0.042	0.050	0.058	0.065	0.071	0.078	0.084
FLA @ 208VAC	0.027	0.032	0.037	0.043	0.047	0.052	0.056	0.061
Ambient Temp.	150° F / 66° C							
Stock Numbers	AOX_R11_24V AOX_R11_MV	AOX_R12_24V AOX_R12_MV	AOX_R13_24V AOX_R13_MV	AOX_R14_24V AOX_R14_MV	AOX_R15_24V AOX_R15_MV	AOX_R16_24V AOX_R16_MV	AOX_R17_24V AOX_R17_MV	AOX_R18_24V AOX_R18_MV
Capacity (cfm)	13,750	15,000	16,250	17,500	18,750	20,000	21,250	22,500
Overall Length	54" (1372mm)	60" (1524mm)	66" (1676mm)	68" (1727mm)	74" (1880mm)	80" (2032mm)	82" (2082mm)	88" (2235mm)
Module Quantities Used								
AOXR1PS-24V AOXR1PS-MV	1	1	1	1	1	1	1	1
AOXR2	2	1	0	2	1	0	2	1
AOXR3	2	3	4	3	4	5	4	5
Total Ion Gens	11	12	13	14	15	16	17	18
Power								
FLA @ 24VAC	0.255	0.280	0.305	0.330	0.355	0.380	0.404	0.428
FLA @ 120VAC	0.092	0.100	0.106	0.111	0.116	0.122	0.130	0.138
FLA @ 208VAC	0.066	0.071	0.076	0.079	0.083	0.087	0.092	0.097
Ambient Temp.	150° F / 66° C							
Stock Numbers	AOX_R19_24V AOX_R19_MV	AOX_R20_24V AOX_R20_MV	AOX_R21_24V AOX_R21_MV	AOX_R22_24V AOX_R22_MV	AOX_R23_24V AOX_R23_MV	AOX_R24_24V AOX_R24_MV	AOX_R25_24V AOX_R25_MV	AOX_R26_24V AOX_R26_MV
Capacity (cfm)	23,750	25,000	26,250	27,500	28,750	30,000	31,250	32,500
Overall Length	94" (2388mm)	96" (2438mm)	102" (2591mm)	108" (2743mm)	110" (2794mm)	116" (2946mm)	122" (3099mm)	124" (3150mm)
Module Quantities Used								
AOXR1PS-24V AOXR1PS-MV	1	1	1	1	1	1	1	1
AOXR2	0	2	1	0	2	1	0	2
AOXR3	6	5	6	7	6	7	8	7
Total Ion Gens	19	20	21	22	23	24	25	26
Power								
FLA @ 24VAC	0.452	0.476	0.500	0.524	0.548	0.572	0.596	0.620
FLA @ 120VAC	0.146	0.154	0.162	0.170	0.178	0.186	0.194	0.202
FLA @ 208VAC	0.102	0.107	0.112	0.117	0.122	0.127	0.132	0.137
Ambient Temp.	150° F / 66° C							

*If your specific model is not listed please contact the factory at:

1-800-394-3458 for operating instructions, safety information and replacement parts or service.