

February 28, 2024

Mr. Stephen S. Ours, P.E.
Chief, Air Quality Permitting Branch
Air Quality Division
Environmental Services Administration
Department of Energy & Environment
Government of the District of Columbia
1200 1st Street NE, 5th Floor
Washington, DC 20002

**Re: National Engineering Products Inc.
Submission of Odor Control Plan**

Dear Mr. Ours:

In accordance with the administrative order (No. DOEE-23-A-50001836) received on October 31, 2023, and amended administrative order received on December 20, 2023, National Engineering Products Inc. (NEPI) is submitting an odor control plan (Attachment 1) pursuant to 20 DCMR §903.1 and 20 DCMR §4001.10(t) to the Department of Energy & Environment (DOEE) Air Quality Division (AQD).

If you have any questions, or require additional information, please do not hesitate to contact me at nepi.customerservice@gmail.com or (301)-656-1688 and my consultant Mike Kendall, ALL4 LLC (ALL4) Managing Consultant, at mkendall@all4inc.com or (843)-460-5378.

Sincerely,



Nicole Barksdale
President of National Engineering Products Inc.

cc: Jacob Zangrilli (DOEE)
Kush Kharod (DOEE)
Mike Kendall [ALL4 LLC (ALL4)]
Terry Darton (ALL4)

Attachments

**ATTACHMENT 1-
ODOR CONTROL PLAN**



ODOR CONTROL PLAN

NATIONAL ENGINEERING PRODUCTS INC.

WASHINGTON, DC

FEBRUARY 2024

SUBMITTED BY:

**NATIONAL ENGINEERING
PRODUCTS INCORPORATED**

National Engineering Products Inc.

1950 Capitol Ave. NE
Washington, DC 20002

SUBMITTED TO:



GOVERNMENT OF THE DISTRICT OF COLUMBIA

**District of Columbia Department of
Energy and Environment**

Air Pollution Control Division
1200 First St. NE
Washington, DC 20002

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1. SOURCE INFORMATION

1.1 NAME OF SOURCE

National Engineering Products Inc. (NEPI) owns and operates a specialty adhesive and sealant manufacturing facility (Facility) in Washington, DC. On October 31, 2023, NEPI received an administrative order (No. DOEE-23-A-50001836) requiring NEPI to submit an odor control plan (OCP) pursuant to 20 DCMR §903.1 and 20 DCMR §4001.10(t) within 60 days of order date. On December 20, 2023, the District of Columbia Department of Energy and Environment (DOEE) granted NEPI an administrative order extension to submit the OCP by March 1, 2024. In compliance with the administrative order, this OCP is being submitted.

1.2 FACILITY CONTACTS AND ADDRESS

Source Owner:	Gail Peterson
Owner Phone Number:	(301) 656-1688
Owner Email Address:	nepi.customerservice@gmail.com
Source Address/Mailing Address:	1950 Capitol Ave. NE Washington, DC 20002
Emergency Contact Name and Title:	Nicole Barksdale, President
Phone Number	(301) 656-1688
Email Address	nepi.customerservice@gmail.com

1.3 SOURCE OPERATIONS

The Facility produces three distinct products: Copaltite Liquid Form (CLF), Copaltite Cement Form (CCF), and Nepseal. These products are made in batches as production is determined by demand in customer orders. Typically, one to two batches of product are manufactured each month. A complete process flow diagram is included as Appendix A.

While CLF and CCF use different raw materials, the production process for both is the same. For CLF the raw materials are Durite™ SL-438A (Durite) and ATLASOL SPIRIT NIGROSINE B BAS. For CCF, the raw materials are Durite, ATLASOL SPIRIT NIGROSINE B BAS, clay, and graphite powder. Production starts by combining all raw materials in the Copaltite mixer until fully incorporated. The mixture is then transferred from the mixing drum to large steel vats. The vats are then sealed and pressurized. The product is pumped

through steel tubes into the filling machine using the pressure in the vats. Finally, the filling machine is used to transfer products into tubes or cans. The production process for CLF and CCF takes no more than one day. Tubes filled with final product must then sit open for no more than two days to cure, after which they are sealed and shipped to customers.

The raw materials for Nepseal are Pripol™, Bentone™ 38, fiberglass, alumina trihydrate, and Kayocel KA650. Raw materials are combined at specific ratios in the Nepseal mixer and heated using a steam boiler. The mixing process occurs over two days, and the boiler is used intermittently during that period. Once all components are combined, a hopper is opened at the bottom of the mixer to fill containers. The finished product does not require any open container curing time. The product is packaged in pint and gallon sized containers.

2. ODOR EMITTING ACTIVITY

Nepseal is generally considered odorless and the Nepseal mixing process occurs with a lid. Additionally, the Nepseal mixer is vented to a stack on the roof using a fan. Therefore, it is believed that Copaltite production, which utilizes the Durite, is the primary source of odorous emissions.

The Copaltite Mixer cannot have a lid while mixing, therefore odorous compounds are emitted from the mixing process as volatile organic compound (VOC) emissions to the ambient Facility air. Additionally, odorous VOC emissions are emitted during the drying process of CLF and CCF as containers must be left open to effectively set the product and reduce container expansion and avoid quality issues with the product.

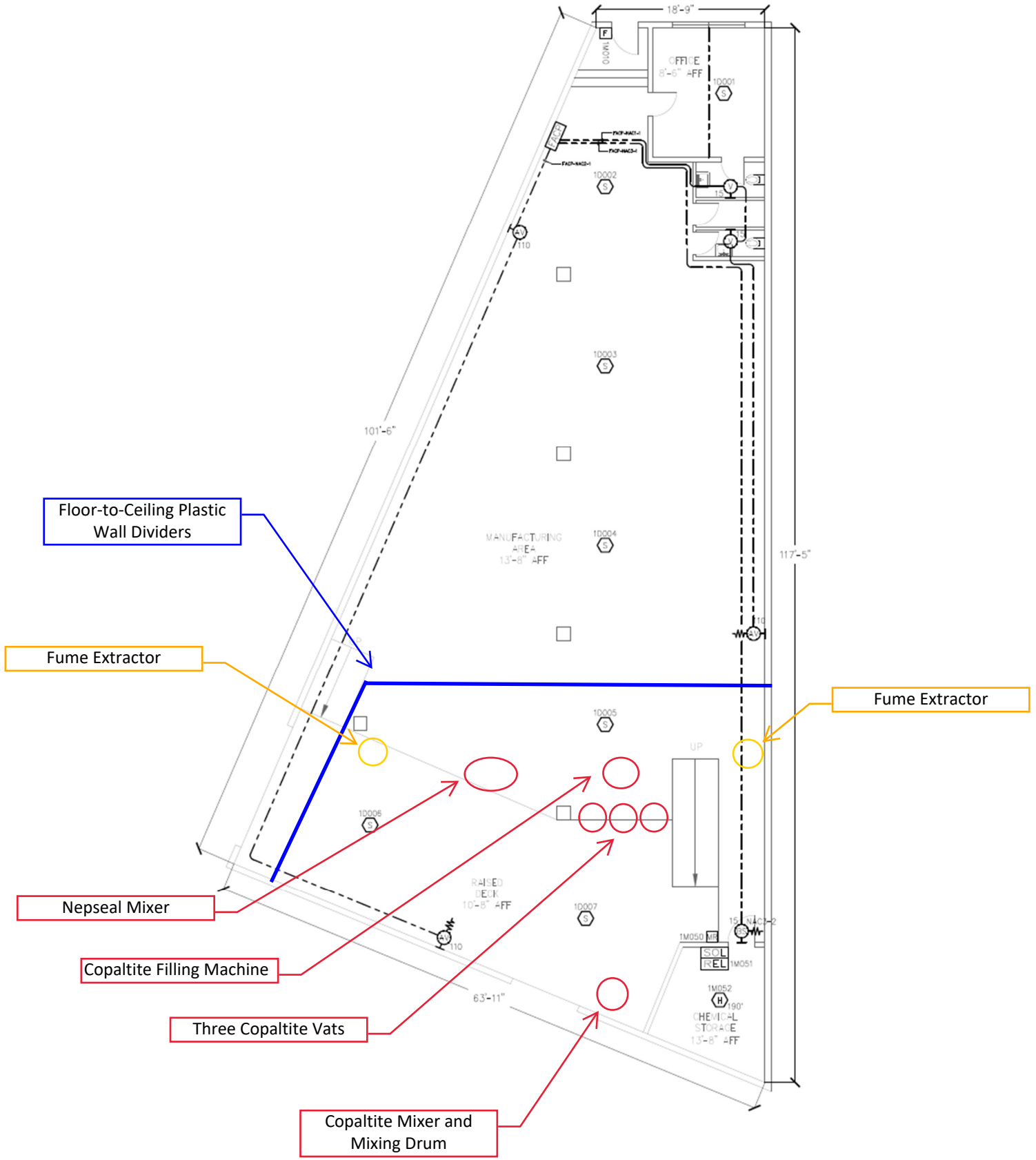
Odorous compounds from CLF and CCF arise from the use of Durite as a raw material. Durite contains cresol [odor detection threshold (ODT) of 0.0006 parts per million (ppm)]¹, methanol (ODT of 100 ppm)¹, phenol (ODT of 0.4 ppm)¹, and formaldehyde (ODT of 0.05 ppm)¹ all of which contribute to odorous VOC emissions, with cresol from CLF and CCF as the most distinguishable compound. Odorous VOC emissions enter the ambient Facility air, and escape the Facility boundaries through doors, windows, and vents.

A complete floor plan of the facility along with locations of odor emitting activities is included as Figure 2-1. During investigation of the odor source, it was discovered that the area under the loading bay is open to the street. This opening is near the production area and therefore may be a key point of odorous emissions from the facility.

¹ Odor detection thresholds were obtained for each substance online from State of New Jersey Department of Health hazardous substance fact sheets found at the following link: <https://web.doh.state.nj.us/rtkhsfs/factsheets.aspx>

Figure 2-1

Facility Floor Plan and Locations of Odor Emitting Activities



3. ODOR MITIGATION PROCEDURES

3.1 MANUFACTURED CONTROLS

Engineering controls for odor mitigation must be approved by a professional engineer (PE) pursuant to 20 DCMR §903.5(c)(2). However, a PE in the District of Columbia who is able to approve the odor mitigation control technology has not been identified yet due to the time constraint to submit this OCP by March 1, 2024. NEPI continues to search for a PE who can approve the manufactured controls presented herein. However, in an effort to comply with the deadline set by DOEE, this OCP is being submitted without a PE certification. A revised OCP will be submitted as soon as possible after a PE has certified the plan.

NEPI plans to use manufactured controls to isolate and mitigate odor emitting activities. These measures include:

- Installing floor-to-ceiling plastic wall dividers to isolate the production area from the rest of the Facility;
- Installing two identical Quatro Fume Extractors for High Volume Applications (Fume Extractors), model AF2000P-M31 (Appendix B), which use carbon filters, in the production area to control odor; and
- Sealing off the opening below the loading bay.

Floor-to-ceiling plastic wall dividers (Dividers) will be installed around the production area to isolate the odor emitting activities at the Facility, see Figure 2-1. Since all odor emitting activity will be contained within the Dividers, they will reduce the volume of affected air in the facility. This also will improve the air circulation rate provided by the Fume Extractors in the production area. Entrance and exit points of the Dividers for Facility personnel will be closed at all times, unless someone is actively moving from one side to another.

The two Fume Extractors will be installed in the isolated production area, facing each other on opposite sides, see Figure 2-1. The filtration system on each unit includes a fabric pre-filter to collect dust and an activated carbon filter impregnated with potassium permanganate to capture odorous VOC. The activated carbon filters are rated to capture all odorous VOC of concern (cresol, methanol, phenol, and

formaldehyde). The Fume Extractors are rated with an air flow of 1000 ft³/min, which results in approximately 6 air changes per hour in the isolated production area.

During the investigative process for the development of this OCP, it was discovered that there is an opening below the loading bay that is open to the street. There was no knowledge of this opening prior to investigation as the opening is difficult to access. This opening will be sealed as part of the manufactured controls for odorous VOC escaping to the ambient atmosphere and further isolate the production area. The area below the loading bay will be sealed with plywood to prevent emissions from escaping.

3.2 ADMINISTRATIVE CONTROLS

NEPI plans to use administrative controls to isolate and mitigate odor emitting activities. These measures include:

- Training staff on best management practices to mitigate odorous emissions;
- Ensuring that all containers are open only for the time they are being used;
- Acquiring an appropriate container with an automatic closing lid used to store cleanup rags;
- Cleaning all production equipment after a production run; and
- Maintaining all manufactured controls according to the manufacturer's specifications.

NEPI has committed to training staff on appropriate measures for odor mitigation. These measures include but are not limited to: keeping doors and windows shut, carbon filter maintenance, keeping lids on any containers or production equipment when not in use, keeping the Copaltite mixing drum under the flange of the Copaltite mixer to act as a lid when not in use, cleaning up spills immediately, and placing drying Copaltite next to the intake of the air purification units. Additionally, NEPI will place best management practices signs (Appendix C) around the building to remind operators of the methods to employ to reduce process air emissions. These best management practices are based on DOEE's VOC control requirements pursuant to 20 DCMR §744.6.

NEPI operators will maintain a carbon filter log (Appendix D) to track dates on which carbon filters in each Fume Extractor have been changed. Replacement carbon filters will be kept at the Facility at all times.

Additionally, the staff will be trained by the supplier of the Fume Extractors as to when the carbon filters need to be changed. The Fume Extractors are equipped with a filter-alert system which will illuminate an indicator light and sound a beeper when the filters need to be replaced. Carbon filters generally last two to three months but may become saturated prior to the set timeline. Operators will conduct a 'sniff test' to determine if any odor can be detected from the carbon filter itself. If the filter has an odor, it must be changed immediately. Maintenance on Fume Extractors will be performed immediately should either unit cease proper function. Lastly, a log of all production dates is kept at the facility, which can be used to correlate any further odor complaint to the date of production

4. IMPLEMENTATION TIMELINE

A comprehensive timeline for the implementation of the aforementioned odor mitigation measures is presented in Table 4-1. The timeline is dependent on the date of approval of this plan because NEPI would like DOEE to agree with the effectiveness of control technology before purchasing and installing.

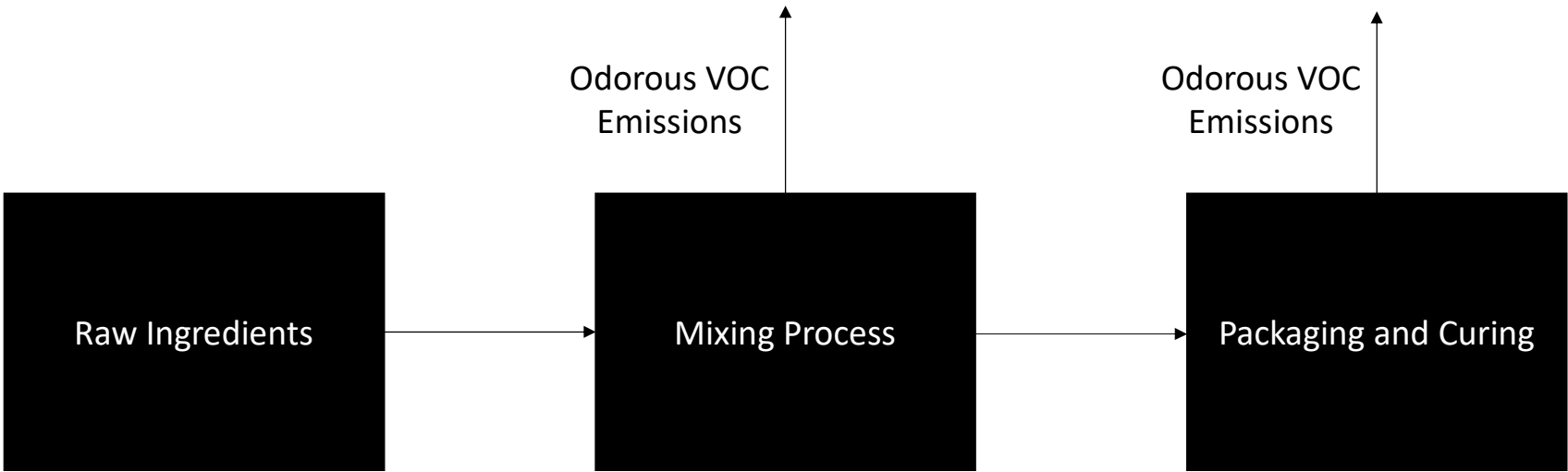
Table 4-1
OCP Mitigation Measure Implementation Timeline

Mitigation Measure	Implementation Timeline
Place "Best Management Practices" Signs in the Facility	Complete
Facility Personnel Training	Continuous, annual
Post Complaint Contact Sign	No later than 1 week after plan approval
Seal Opening Below Loading Bay	No later than 2 weeks after plan approval
Install Floor-to-Ceiling Plastic Dividing Walls	No later than 4 weeks after plan approval
Install Two Fume Extractors	No later than 8 weeks after plan approval

5. COMPLAINT PROCEDURES

NEPI will post a sign on the door of the Facility with contact information should an odor complaint be warranted. These complaints will be tracked using the table in Appendix E. Key information to collect from the complainant includes the location and time the odor was detected. Every complaint will be investigated on a case-by-case basis to confirm whether the Facility is confirmed to be the source of the odor and determine what actions NEPI may need to take.

**APPENDIX A -
PROCESS FLOW DIAGRAM**



**APPENDIX B -
QUATRO AF2000P-M31 FUME EXTRACTOR FOR HIGH VOLUME APPLICATIONS
OWNERS MANUAL**

Operations & Maintenance Manual

AF Air Purifier iSeries AF1000RNP and AF2000RNP



1.0 INTRODUCTION

Congratulations! You are now the owner of a QUATRO AirFlow Series RNP system, an advanced effective air purifier, designed specifically to help protect the human respiratory system. You can expect a noticeable improvement in air quality as the unit begins the process of reducing microscopic airborne particulate. The RNP system was designed to provide flexibility in the field. It can be used with adjustable discharge grills for simple recirculation or it can be converted to a negative pressure system by replacing the adjustable grill with 6" (AF1000RNP) or 10" (AF2000RNP) discharge collar which has been supplied. This will allow the end user to exhaust clean air from the room to create a negative pressure environment.

2.0 PRECAUTION

Read all the instructions contained within this manual before operating this unit. Keep this manual, as it contains information for proper operation and maintenance. Keep all fastening hardware tight to ensure that the unit is in good working condition. Familiarise yourself with the way in which filters are removed, installed, and serviced. All filters must be in place whenever this machine is in operation. Use only on a grounded electrical circuit; do not use any two-wire electrical prong adapters to defeat the three-pronged plug on the end of the cord. When servicing the motor, be careful when touching the exterior of the motor as soon as it has been turned off; it may be hot enough to be painful or cause injury. They are built to operate at higher temperatures. **Do not substitute any other filters (particulate or chemical) for those supplied, as this will alter the unit efficiency. DO NOT SERVICE MOTOR OR CONTROL PANEL UNLESS UNIT IS UNPLUGGED FROM RECEPTACLE (ITS POWER SUPPLY)!**

3.0 PRINCIPLE OF OPERATION

The air is drawn in through an intake grille located at the bottom of unit. The air then passes through the particulate, HEPA and optional odor filters. The clean air is then released through the top discharge grills into the controlled space. The **AF iSeries Purifier** features a threefold method of operation; a) captures general particulate; b) HEPA filter removes microscopic particulate matter; c) Optional Chemical filters adsorbs, reacts or scrubs toxic or nuisance gases (optional).

4.0 MAIN SYSTEM COMPONENTS

BLOWER ASSEMBLY: The blower is factory balanced and tested to ensure quiet, vibration-free operation.

CONTROL PANEL: Designed for easy monitoring, features micro-processor based control for speed variation and filter alarms.

5.0 SYSTEM SPECS

Description	AF2000	AF1000
Nominal Airflow (CFM/m3/hr)	1000 / 1700	600 / 1020
Dimensions, Height:	71" (1803mm)	52" (1321mm)
Dimensions, Width: *	24" (610mm)	22" (559mm)
Dimensions Length:	26" (660mm)	16" (406mm)
Voltage	120/1/60 or 230/1/50	120/1/60 or 230/1/50
Current:	5.4 or 2.3 amps	1.6 or 0.8 amps
Approx. Weight:	350lbs (159kgs)	200lbs (91kgs)

* - add 2" for bend on power cord if req'd for width dimension

6.0 UNIT RECEIVING INSTRUCTIONS

Upon receipt, inspect unit for either visible or concealed damage. Damage should be immediately reported to the transport company. Ensure:

- a) All internal components are present and are adequately supported and installed;
- b) Labels and serial numbers are present for future identification;
- c) Verify that power supply is compatible with equipment. Also check that the unit is plugged into a grounded receptacle;
- d) Ensure that unit-mounted casters are tight and secure before manoeuvring the system.
- e) Remove any spare filters supplied inside the unit and store for future use.

7.0 START-UP

- a) Place unit on a flat surface, ensure filters are installed (see **Equipment Installation and Filter Maintenance Guide** on face of unit);
- b) Ensure that supply and return air grilles are not obstructed in any way (air circulation patterns will be inhibited if airflow is obstructed);
- c) Insert male end of cord into the correct voltage circuit. Control will emit 3 beeps and 4 LEDs will flash along with those beeps.
- d) Press Power button and adjust airflow (speed control) accordingly. See Section 9.1.

WARNING: DO NOT OPERATE UNIT UNLESS ALL FILTERS ARE IN PLACE.

8.0 FILTER & BLOWER MAINTENANCE

Proper maintenance is critical to extend the life of the system. The information presented below outlines basic maintenance procedures ensuring the unit will provide trouble-free operation. The purifier is designed to allow quick access to the filters, blower/motor and control panel assembly.

Level	Type	Replacement Frequency	AF1000*	AF2000*
Level I	Dust Filter	Every 3 months	F007-8/box	F001-8/box
Level II	12" Intermediate Hi Capacity Filter	Every 6 months	F015-1/box	F014-1/box
	or 6" Intermediate High Capacity filter	Every 6 months	F016	(2) F016
	or Intermediate General VOC/Odor Filter	Every 12 months	(1) F003-GPC	(2) F003-GPC
Level III	Hepa Filter (99.97%)	Every 12-18 months	F057-1/box	F052-1/box
	or Hepa Filter High Capacity (99.97%)	Every 12-18 months	F550-1/box	-
	or Hepa Filter (99.995%)	Every 12-18 months	F357	F352

* The filters shown are for the most popular filter sequences. Verify the part number on the filter in your system before ordering.

8.1 FILTER-ALERT SYSTEM AND FILTER REPLACEMENT

QUATRO has included in this unit a "FILTER ALERT" Warning System. When filters need to be replaced, the "Service Filter(s)" light (LED) illuminates and beeper sounds for 2 seconds every 4 hours. When the appropriate "Service Filter(s)" light (LED) illuminates, it is time to replace the filters following the above table. The information presented below outlines basic maintenance procedures ensuring the unit will provide trouble-free operation for years to come.

8.2 PARTICULATE FILTER REPLACEMENT

- a) Open the filter access door with the appropriate tool (Phillips screw driver) to avoid stripping of screws;
- b) Carefully slide pre-filters and high capacity filters along their support channels, Slide clean filters gently into place;
- c) Ensure Dust Filters are replaced as per airflow indications;
- e) If encountering difficulties, confirm that there are no obstructions in the filter track;
- f) Hi-Efficiency filters must be replaced as per airflow arrow on the filter casing;
- g) HEPA filters should be installed with gaskets facing up to seal on the section above the filter.
For critical applications, a secondary seal can be applied using continuous bead of removable sealant. (Part# AR321)
This would be applied to the middle of the gasket in a continuous bead prior to putting the HEPA into the system and then inserting pressure seal rods
- h) The RNP systems are equipped with a HEPA pressure sealing mechanism. The easiest and most effective way to change the HEPA filters is with the unit lying down on its back. Two or more people will be required to do this safely. Once lying down the pressure sealing mechanism rods are to be pulled out to release the seal. There are loops on the rods to help pull. If it is difficult to remove please use a tool for additional leverage. Please note it critical for these filters to be tight and secure to avoid by-pass so this is completely normal. If secondary sealant was applied please remove this prior to installing new filter.
- i) Care must be taken not to damage the exposed portions of the new HEPA filter. DO NOT bend aluminium separators as this will obstruct airflow.
- j) **RESET "Service Filter(s)" Light (see section 8.6)**

8.3 Optional CHEMICAL FILTER TRAY (F003) MAINTENANCE

It is essential that the chemical filter media be replaced approximately every twelve months **OR** immediately following any detection of odor. After an operating period of twelve months (or when the filters are consumed), call your authorised distributor to purchase a new set of chemical filtration assemblies (Part No: F003-xxx) prior to removal of existing one.

To replace Odor Filter (Part No: F003-xxx)

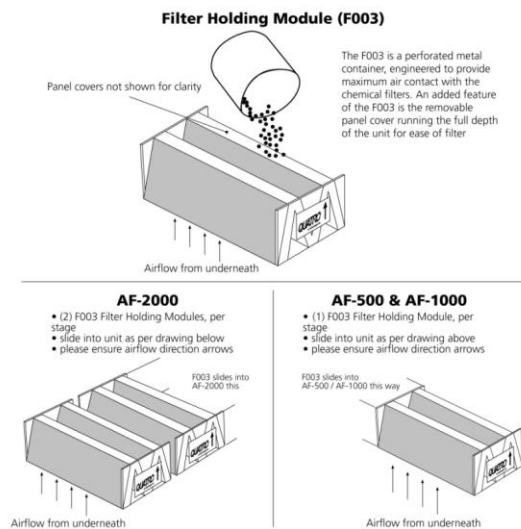
- a) Ensure that the unit is unplugged, open door with appropriate tool to avoid stripping of screws;
- b) Slide out the existing F003 chemical module, remove new F003 from the box that it was shipped in;
- c) Reinsert new filter back into the system with removable lid on top;
- d) Return door to the closed position and verify that an airtight seal is maintained;
- e) **RESET "Service Filter(s)" Light (see section 8.6)**

8.3 Optional BULK CHEMICAL MEDIA FILTER TRAY (F003) MAINTENANCE

To refill existing F003 chemical filter cell with new bulk odor media:

- a) Slide out existing F003 filter (see diagram below);
- b) Unscrew the screws and lift off access cover;
- c) Pour out used odor filter (**this procedure may be dusty, therefore it is recommended to do this in a well-ventilated area. It is also recommended to wear a dust mask, goggles and gloves when replacing bulk media**);
- d) Refill F003 container with fresh odor filters and replace the 2 panel covers and re-insert into unit as per diagram on last page of manual;
- e) **RESET "Service Filter(s)" Light (see section 8.6)**

Filter disposal is the responsibility of the end-user. Please contact local authorities for proper and legal disposal.



8.4 BLOWER MAINTENANCE

WARNING: Switch unit off and unplug power cord from wall before servicing the blower.

The motor is equipped with electric motor grade double shielded ball bearings and a special lubricant, assuring long life and quiet operation. No extra motor maintenance is required.

8.5 ANNUAL GENERAL INSPECTION

The sealing integrity of the **AF iSeries Purifier** is essential. Every 12 months, verify that all gaskets are in proper condition. Should the door gaskets adhere to the unit when opening a door, lubricate its surface with a transparent grease or petroleum jelly. Should the unit be relocated continuously for optimum efficiency, ensure all casters are tightly fastened.

The motor is equipped with electric motor grade double shielded ball bearings and a special lubricant, assuring long life and quiet operation. No extra motor maintenance is required.

8.6 RESETTING FILTER LIGHTS

When filters need to be replaced, the filter light illuminates and beeper sounds for 2 seconds every 4 hours.

Resetting “Service Filter(s)” Alert

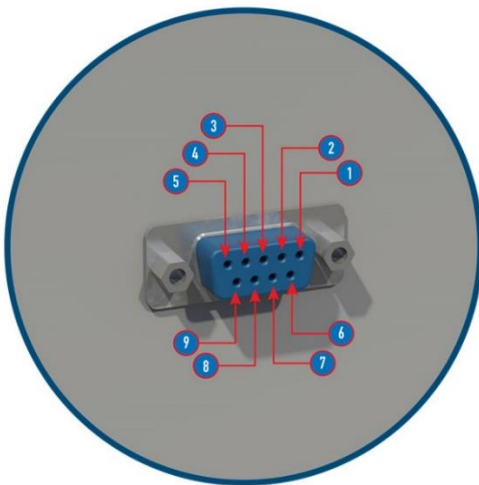
- 1- Ensure filter access door is closed
- 2- Plug power back to the unit
- 3- Press & hold SPEED UP & DN simultaneously until unit BEEPS
- 4- Hold for 10+ seconds, when panel is beeping continuously, release buttons
- 5- You are now in RESET MENU, in this condition, “System ON” Led is FLASHING QUICKLY
- 6- Press SPEED DN (2 Times) until “Service Filter(s)” LED is FLASHING
- 7- Press & HOLD POWER button while “Service Filter(s)” LED is FLASHING & unit is BEEPING continuously
- 8- Release, when LED stops FLASHING & stops BEEPING



9.1 SPEED CONTROL

The unit is equipped with built-in speed control. By pressing & holding down the speed UP or DOWN triangles, you respectively increase and decrease unit's speed. When you reach the highest or lowest speed, the panel will continuously BEEP alerting you that you have reached the highest or lowest speed.

Units that are equipped with factory optional Remote Control subD 9 pin connector can purchase an optional foot pedal switch (part# AA175) to turn unit on/off remotely. Also pins 1 and 2 can be wired to any dry contact switch for remote on/off capability.



- Pin 1 Dry Contact Board Return/Board Ground
- Pin 2 Dry Contact +
- Pin 3 1-30 V AC/DC +
- Pin 4 1-30 V AC/DC -
- Pin 5 Status (Fault or Run) Signals Common
- Pin 6 Status Fault Signal - Normally CLOSED
- Pin 7 Status Fault Signal - Normally OPEN
- Pin 8 12 Voc +
- Pin 9 Status Run Signal - Normally OPEN

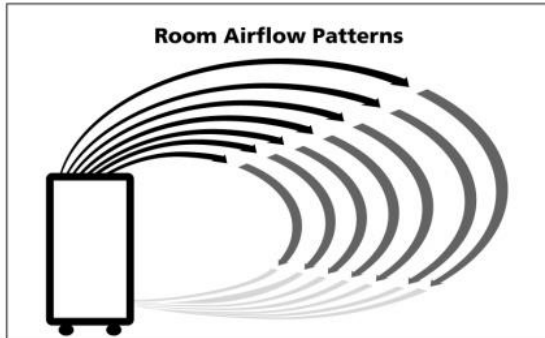
NOTES

9.2 Replacement and optional components

10" collar plate for AF2000	H184	AF2000 HEPA seal rod kit (2)	AR329-03	AF2000 (120V) Fan	AR329-02-16
6" Collar plate for AF1000	M701	AF1000 HEPA seal rod kit (2)	AR336-01	AF1000 (120V) Fan	A001-16
8" Collar plate for AF1000	M271-38	Tube of removable sealant	AR321	120 volt power cord	E220
AF1000 grill plate (incl. 3 grills)	AR336-02	Single multi-directional grill	H507	AF2000 replacement grill	H001

9.3 POSITIONING OF UNIT

Mounted on four casters, the unit can be wheeled virtually anywhere in the room for optimal convenience. The unit is designed in an up-flow configuration allowing the air to create a "sweeping" effect across the room. The clean air is released from top of unit, moving across the room in a downward motion. The clean air pushes particulate and gaseous matter towards the floor level and draws it in the intake grille located at bottom of unit. This configuration allows the particles which have already accumulated towards the ground to be pulled towards the return air grille. This results in a very effective means of space cleaning. The **AF iSeries Purifier** is more efficient the closer it is placed to its intended source. Conversely, the unit's efficiency is diminished as it is placed further from the source of pollutants.



9.3 REDUCTION IN AIRFLOW

As the unit cleans the air, the filters are removing the submicronic particles and dust from the air stream. As the filters accumulate debris (both visible and microscopic), a restriction on the blower/motor is created. As the restriction becomes greater, the air capacity delivered by the blower decreases rendering the unit less effective. IT IS VERY IMPORTANT TO CHANGE FILTERS ON A REGULAR BASIS.

10.0 TROUBLESHOOTING GUIDE

Symptoms	Possible Cause	Suggested Solution
Unit will not start	<ul style="list-style-type: none"> o Faulty Power supply o Blown fuse o Unit not plugged into receptacle 	<ul style="list-style-type: none"> o Check breaker box o Replace fuse o Plug unit in
Excessive noise	<ul style="list-style-type: none"> o Blower wheel contacting cone o Fan isolators loose or off 	<ul style="list-style-type: none"> o Realign/replace wheel o Replace isolator
Insufficient airflow	<ul style="list-style-type: none"> o Obstruction in system o Clogged filters 	<ul style="list-style-type: none"> o Remove obstruction o Replace filters
Excessive airflow	<ul style="list-style-type: none"> o Filters not in place 	<ul style="list-style-type: none"> o Install filters

11.0 WARRANTY

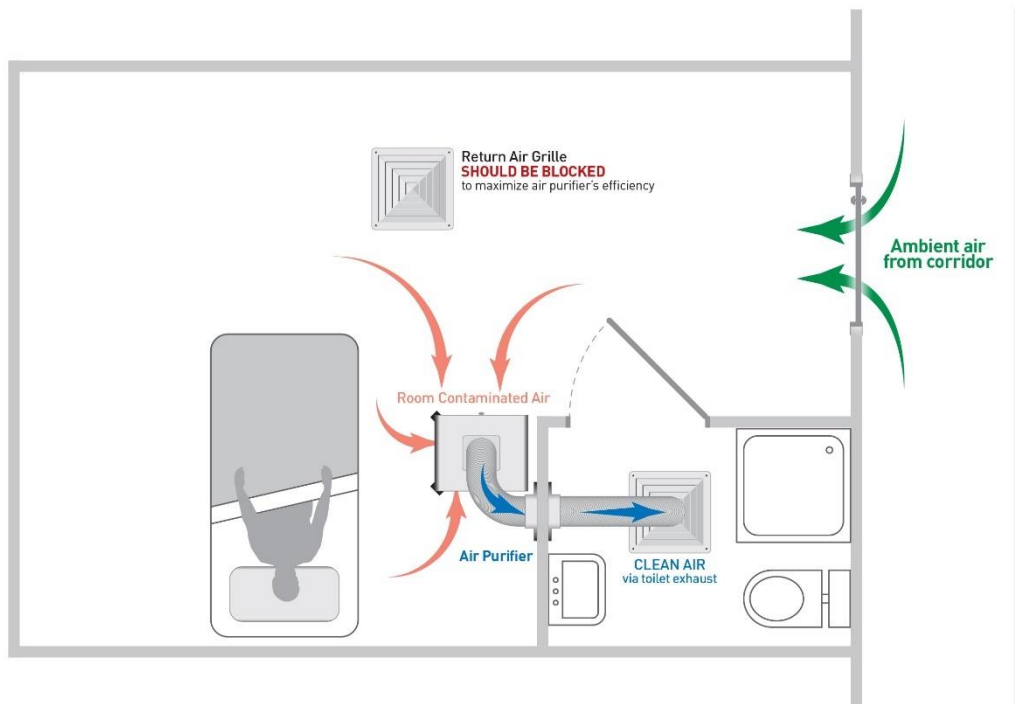
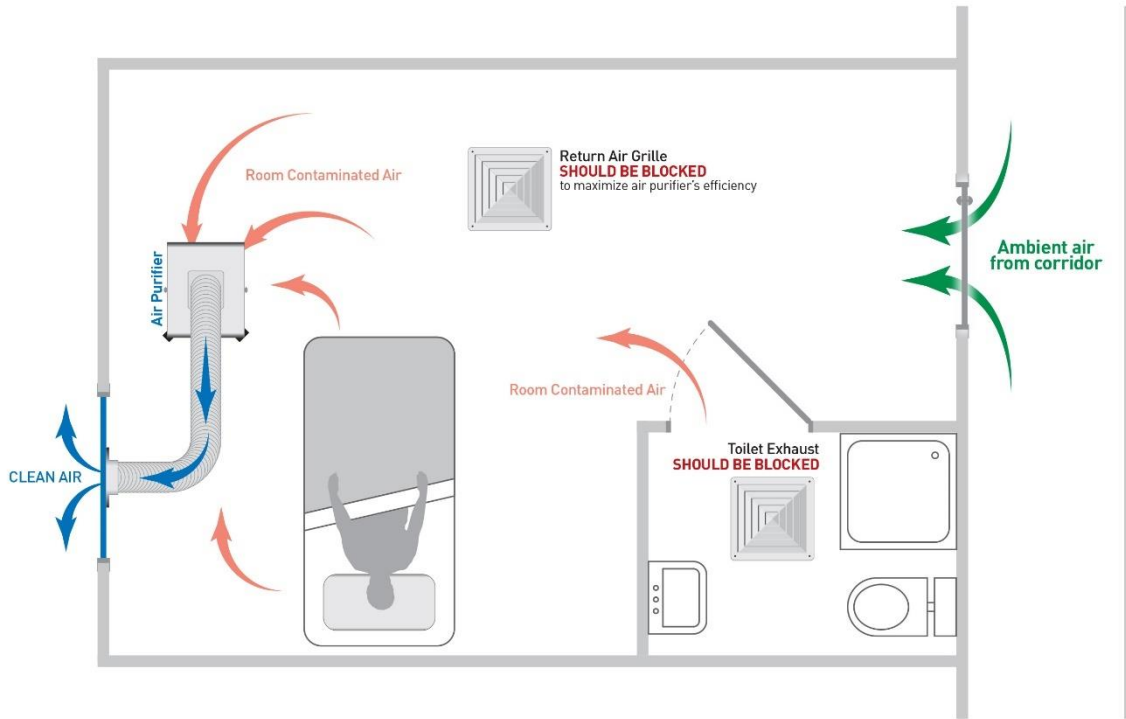
QUATRO Air Technologies warrants its equipment to be free from defect in material and workmanship under normal use and service for a period of one year from date of shipment. QUATRO's obligation under this warranty shall be limited to replacing any parts, thereof, which shall be demonstrated to have been defective. This is expressly in lieu of all other warranties, express or implied, including the warranties of merchantability and fitness.

QUATRO claims no warranty as to merchantability or as to the fitness of the merchandise for any particular use and shall not be liable for any loss or damage. No person, firm or corporation is authorized to assume for QUATRO any other liability in connection with the sale of these goods. Equipment, parts and material manufactured by others and incorporated in QUATRO's equipment are warranted by QUATRO only to the extent of the original manufacturer's liability to QUATRO Air Technologies Inc.

Conditions and Limitations:

This warranty does not cover abuse, misuse, maintenance negligence, improper assembly, acts of vandalism, acts of God, fear wear, modifications of the equipment or installation of a part not recommended by QUATRO Air Technologies, as well as operation of the equipment at voltages other than those specified by QUATRO Air Technologies Inc.

The AF1000RNP and AF2000RNP multipurpose systems are shipped to you as a recirculation system complete with adjustable inlet grill and adjustable discharge grills installed. If it is desired to operate as a negative pressure system, the 6" (AF1000) or the 10" (AF2000) discharge collars will need to be installed on the unit. If an additional collar or flexible hose is required to complete the installation, please see replacement parts table above



CONVERTING FROM RECIRCULATION TO NEGATIVE PRESSURE **For AF-1000RNP units with serial numbers less than 75288**

Step 1.

Remove all filters from the AF-1000 and place a cardboard or plastic sheet over the fan assembly to catch as much steel material as possible during the cutting/drilling process. If you decide not to replace the HEPA filter you must place something on top of the filter to protect against the metal shavings dropping into the filter.

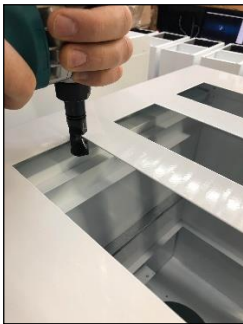
Step 2.

Remove the three black supply grilles by using a slotted screwdriver and pressing on the four tabs located on the black grilles.



Step 3.

Use a jig saw or other type of steel saw to cut the metal material out in between the grilles to leave a large rectangular opening.



Step 4.



The extra supply collar plate has been supplied; it has an 6"Ø or 8" Ø opening.

Step 5.



Place the supply collar plate (M701 or M271-38) on the top of the unit - center it and use a marker to dot the location of the holes, remove plate and drill a 1/16"Ø pilot hole.

Step 6.



Place a continuous ¼" bead of white or clear silicone around the perimeter of the top of the unit before placing the collar plate on top of the unit

Step 7.



Use the self-tapping screws to fix the plate on to the top of the unit permanently.

For units built with serial numbers greater than 75288 the 3 black grills will be mounted on a separate removable plate (AR336-02). This will make the transition from Recirculation to Negative pressure collar discharge a simple task. The plates will be removable and interchangeable with no cutting required.

To convert AF2000 units simply remove the discharge grill (H001), apply some caulking to the 10" collar plate (H184) and screw down the plate over the discharge opening using the hardware provided.

UV Light Installation - AF1000



Material	Part Number
UV-C Light bulb (pack of 4)	#E718

Tools required:

- #3 Philips screwdriver
- OR
- #2 Robertson screwdriver

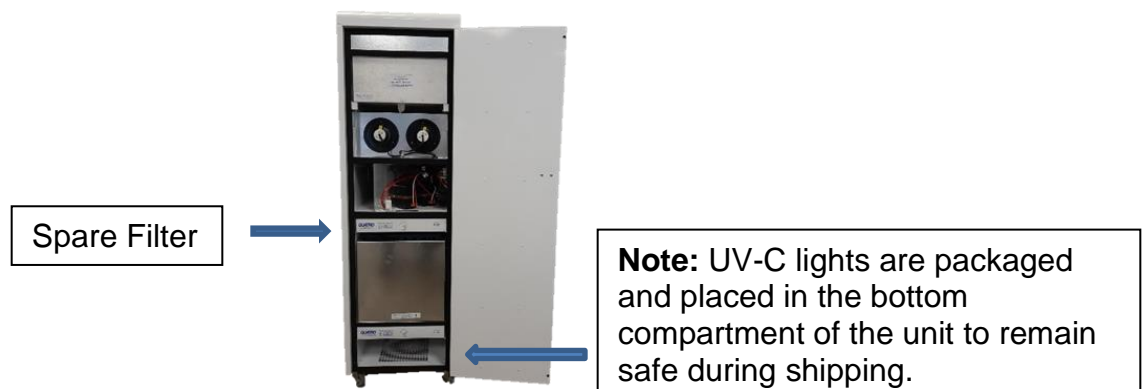
Caution: Never expose eyes or skin to UV-C energy.

Warning: Before installing or servicing the UV-C lights, **turn unit power off.**

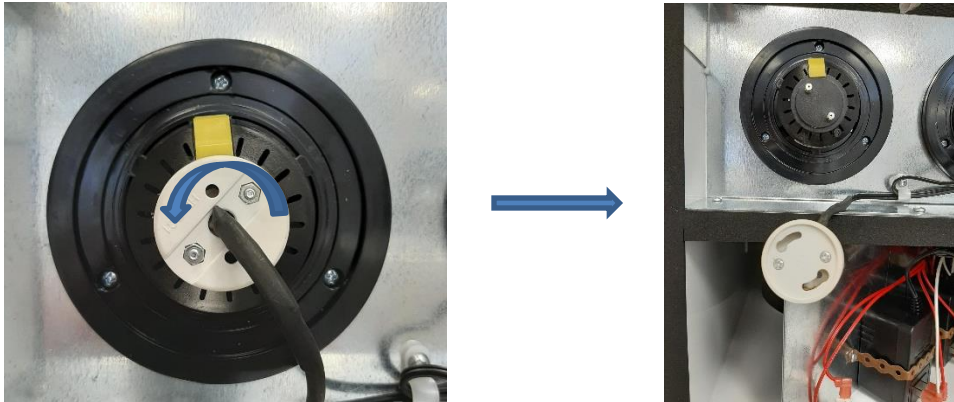
Note: there is a kill switch that serves this function, as an extra safety precaution.

Note: UV-C light bulbs should be **replaced annually.** Visible blue light is not an indication of UV-C output; UV-C wavelength is invisible.

1. Turn off your AF1000-IVF unit.
2. Open the unit door; Use your screwdriver to unfasten the (2) screws securing it.



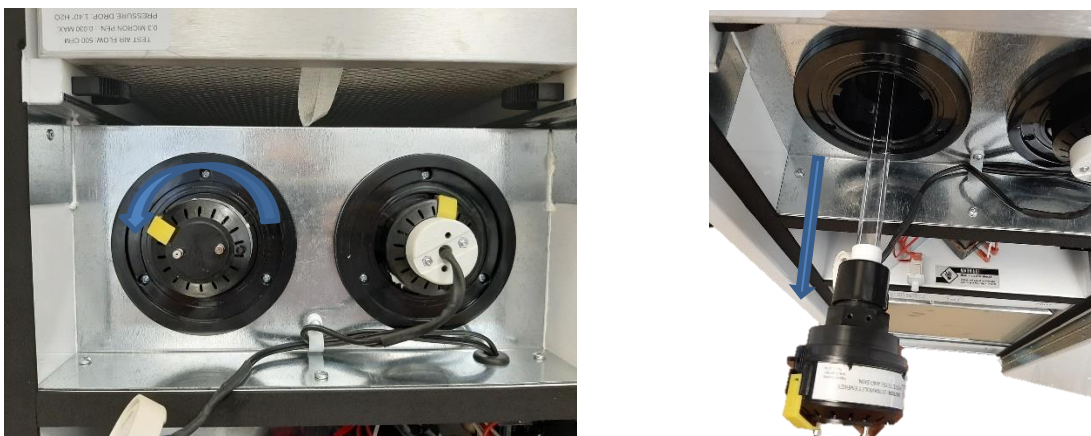
3. Twist the white power cap counter-clockwise and remove.



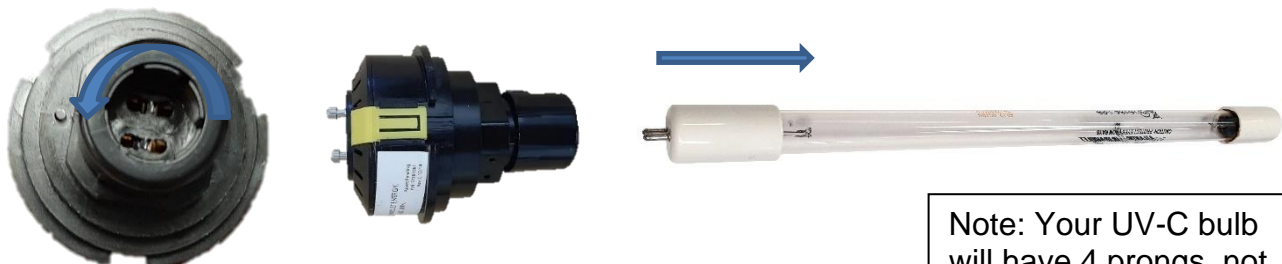
4. Slide out the yellow safety latch.



5. Twist the power supply counter-clockwise and remove the UV light assembly.



6. Loosen the clamp nut and remove the old UV-C lightbulb from the power supply socket.



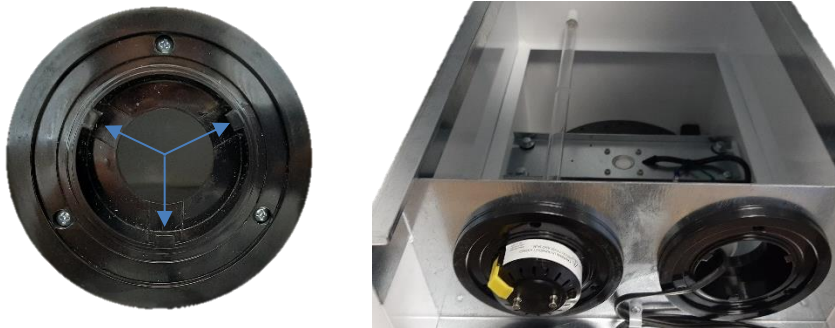
Note: Your UV-C bulb will have 4 prongs, not 2 as illustrated.

7. Insert the new UV-C lightbulb [#E718] into the power supply socket; secure by hand tightening the clamp nut to create an interference fit.



8. Insert the UV light assembly into the mounting ring.

Note: Make sure to observe alignment slots on the mounting ring, allowing for an easy fit.

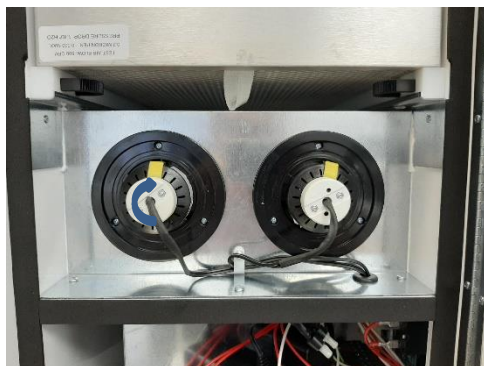


For visual purposes, the HEPA filter above the UV-C light bulb has been removed.

9. Pull up on the yellow safety latch. Turn the UV light assembly clock-wise (Note: approx. 60 degrees CW until installed). Push down on the yellow safety latch to lock into mounting ring.



10. Align the power cap and twist on; Clockwise rotation until you hear it snap into place.



11. Close the unit door and secure by fastening the screws back into place.

**APPENDIX C -
DISTRICT OF COLUMBIA DEPARTMENT OF ENERGY AND THE ENVIRONMENT
VOC CONTROL REQUIREMENTS**

**DISTRICT OF COLUMBIA DEPARTMENT OF ENERGY AND ENVIRONMENT
VOC CONTROL REQUIREMENTS**

- Store or dispose of all absorbent materials, such as cloth or paper, which are moistened with adhesives, sealants, primers, or solvents in non-absorbent containers that shall be closed except when placing materials in or removing materials from the container
- Store all VOC-containing adhesives, sealants, adhesive primers, sealant primers, surface preparation and cleanup solvents, and related waste materials in closed containers
- Ensure that mixing and storage containers used for VOC-containing adhesives, sealants, adhesive primers, sealant primers, surface preparation and cleanup solvents, and related waste materials are kept closed at all times except when depositing or removing these materials
- Minimize spills of VOC-containing adhesives, sealants, adhesive primers, sealant primers, surface preparation and cleanup solvents, and related waste materials
- Clean up spills immediately
- Convey VOC-containing adhesives, sealants, adhesive primers, sealant primers, surface preparation and cleanup solvents, and related waste materials from one location to another in closed containers or pipes
- Minimize VOC emission from cleaning of application, storage, mixing, and conveying equipment by ensuring that equipment cleaning is performed without atomizing the cleaning solvent and all spent solvent is captured in closed containers

**APPENDIX D -
CARBON FILTER MAINTENANCE LOG**

**APPENDIX E -
ODOR COMPLAINT TRACKING TABLE**
