

DefenderTM

by SCHAEFER

AV1000

Air Purification Unit Installation, Operation, & Maintenance



SCAN FOR WEBSITE



SCJA-400

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SAFETY LABELS

Read, Understand, and Follow All Safety Instructions

Save all Warnings and Instructions for future reference

All personnel should be alerted to the potential hazards indicated by the product safety labeling of this unit

The following conventions are used to indicate and classify precautions in this manual and on product safety labeling. Failure to observe precautions could result in electric shock, fire and/or serious injury to people or damage to property.



This symbol is used to alert you of potential personal injury hazards.



This symbol is used to identify the need to wear protective gloves.



This symbol is used to identify an ELECTRICAL SHOCK or ELECTROCUTION hazard.



This symbol is used to identify components which must not be disposed of in the trash.



This symbol is used to identify ULTRAVIOLET LIGHT hazard.



WARNING indicates a potentially hazardous situation which, if not avoided, **COULD** result in serious injury or death.



This symbol is used to identify the need to wear approved ultraviolet blocking eye wear. Always protect eyes and skin from direct reflected radiation.



CAUTION indicates a potentially hazardous situation which, if not avoided, **MAY** result in minor or moderate injury.



This symbol is used to identify the need to wear an approved ultraviolet blocking face shield. Always protect eyes and skin from direct reflected radiation.

IMPORTANT SAFETY INSTRUCTIONS

To guard against injury, basic safety precautions should be observed, including the following:

⚠ WARNING

Read, understand, and follow ALL instructions in this manual before assembling, starting, or servicing the unit. Improper use of the unit can cause serious injury.

⚠ WARNING



Avoid exposure to direct or reflected germicidal ultraviolet rays. Germicidal ultraviolet rays are harmful to eyes and skin.

⚠ WARNING



Intended for indoor use only. To reduce risk of electric shock, do not expose to water or rain.

⚠ WARNING

Do not alter design or construction of the product. Damage or personal injury could result.

⚠ WARNING

Do not use this fixture for anything other than its intended purpose, as described in this manual.

⚠ CAUTION

Do not override safety interlock.

⚠ WARNING



Do not mount under any source of moisture or condensation such as humidifiers, cooling coils etc.

⚠ CAUTION

DO NOT remove any labels or devices.

⚠ WARNING



Do not operate without proper electrical ground.

⚠ WARNING

Do not operate the unit if there is visible or suspected damage to the unit or, if applicable, if there is damage to the power cord and or plug.

⚠ CAUTION

Keep inlet and outlet of the blowers clean and clear of debris.

⚠ WARNING

Do not operate without access cover secured.

⚠ CAUTION

Stay clear of blowers or other moving parts that can cause injuries.

⚠ CAUTION

Do not use to exhaust hazardous or explosive materials and vapors. Never use in spaces which contain products such as gasoline, solvents, paint thinners, dust particles, volatile or airborne combustibles, or any unknown chemicals.

⚠ WARNING

This product can expose you to chemicals, including lead and lead compounds, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www. P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

⚠ WARNING

Never leave the unit unattended while operating or while connected to a power source.

⚠ WARNING

This is not a toy. To reduce the risk of personal injury and electric shock, the unit should not be played with or placed where small children can reach it.

⚠ WARNING



To reduce the risk of fire or electric shock, do not use this unit with any solid-state speed control device.

⚠ WARNING



To reduce the risk of electric shock and injury to persons, do not use near a window.

⚠ WARNING

Do not operate any unit with a damaged cord or plug. Discard unit or return to an authorized service facility for examination and/or repair. Do not run cord under carpeting. Do not cover cord with throw rugs, runner, or similar coverings. Do not route cord under furniture or appliances. Arrange cord away from traffic areas and where it will not be tripped over.

IMPORTANT SAFETY INSTRUCTIONS

⚠ WARNING

Always use on a dry, level surface.

⚠ WARNING

Do not attempt to repair or adjust this unit aside from replacing the bulb or filter. Doing so will void warranty. Replace bulb and filter with only genuine Defender parts.

⚠ WARNING

Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or service person if you are in doubt as to whether the outlet is properly grounded. Do not modify the plug provided with the appliance if it will not fit the outlet. Have a proper outlet installed by a qualified electrician.

⚠ WARNING

Utility power supplied to the unit must match power requirements listed on the unit label.

⚠ WARNING

Always disconnect power to the unit before performing any service or maintenance.

⚠ WARNING

Read and follow all notices and warnings on the unit.

⚠ WARNING

To reduce the risk of fire, electric shock or injury to persons, do not use replacement parts that have not been recommended by the manufacturer (e.g. parts made at home using a 3D printer).

⚠ WARNING

This product employs overload protection (fuse). A blown fuse indicates an overload or short-circuit situation. If the fuse blows, unplug the product from the outlet. Replace the fuse as per the user servicing instructions (follow product marking for proper fuse rating) and check the product. If the replacement fuse blows, a short-circuit may be present and the product should be discarded or returned to an authorized service facility for examination and/or repair.

⚠ WARNING

Skin or eye damage may result from directly viewing the light produced by the lamp in this apparatus. Always disconnect power before relamping or servicing. Replace lamp with lamp Model No. D-AV1000-UVC-10 if ordered directly from Pinnacle Climate Technologies, Inc. or PN Signify TUV PL-L 24W.

⚠ WARNING

Do not use outdoors.

⚠ WARNING

Before operating, always check fan for loose or damaged parts. Inspect power cord for any damage. Never use fan if any parts are damaged or missing.

⚠ WARNING

Operate only on 120 volt 60 Hz (cycle) current with a minimum of a 15 amp circuit.

SAVE THESE INSTRUCTIONS.

LIMITATIONS ON USE

WARNING

OVEREXPOSURE TO GERMICIDAL ULTRAVIOLET RAYS WILL RESULT IN THE IRRITATION OF THE EYES AND THE REDDENING OF THE SKIN. FOR THAT REASON, THE DEVICE IS EQUIPPED WITH A DOOR INTERLOCK WHICH DISABLES THE UV-C LAMP WHEN THE CABINET DOOR IS OPEN.

IF USER OVERRIDES CABINET DOOR INTERLOCK, RESULTANT EXPOSURE TO UV-C LAMP RADIATION EXCEEDS DAILY RECOMMENDATIONS AND WILL CAUSE INJURY TO USER AND DAMAGE TO EQUIPMENT.

AV1000 IS INTENDED FOR INDOOR USE ONLY. FAILURE TO FOLLOW THIS WARNING MAY RESULT IN SERIOUS INJURY, ELECTROCUTION, BURNS AND OR DEATH.

CAUTION

THE FAN USED IN THE AV1000 UNIT IS A ROTATING PIECE OF EQUIPMENT RUNNING AT 3,000 RPM. ALWAYS SHUT DOWN THE EQUIPMENT PRIOR TO SERVICE WORK. UNPLUG IT FROM IT'S POWER SOURCE AND WAIT A MINIMUM OF ONE MINUTE FOR THE FAN TO STOP PRIOR TO UNLOCKING THE DOOR FOR SERVICE. THE AV1000 UTILIZES SAFETY SWITCHES IN THE DOOR THAT AUTOMATICALLY DISENGAGE POWER TO THE UNIT UPON OPENING. IF THE DOOR IS OPENED WHILE THE UNIT IS RUNNING, POWER WILL AUTOMATICALLY SHUT OFF; IN THIS CIRCUMSTANCE, THE FAN WILL STILL BE IN ROTATION AND BEGIN WINDING DOWN WHEN THE DOOR IS OPENED. THIS PRESENTS A HAZARD TO PERSONNEL AS A ROTATING FAN BLADE OF THIS NATURE CAN CAUSE HARM. ONLY CERTIFIED TECHNICIANS SHOULD BYPASS PROPERLY SHUTTING DOWN THE EQUIPMENT PRIOR TO OPENING THE DOOR FOR ANY REASON.

INTRODUCTION

The Defender by Schaefer™ AV1000 Air Purification unit is designed for ambient capture in commercial and institutional settings. The fan is designed to move up to 1,000 CFM, capturing and destroying chemical and biological contaminants.

Model Name	AV1000
Airflow	1,000 CFM (1,700 m³/hr)
Height	90.75 in. (2305.1 mm)
Width	30.72 in. (780.4 mm)
Depth	15.42 in. (391.8 mm)
Power Supply	Single phase 115 V – 60 Hz
Current	10 amps
Weight	230 lbs. (104.3 kg)
Coverage Area	9,000 cu. ft. (836 m³)
UV-C Wavelength	254 nm

How the AV1000 Works

1. Air is drawn into the AV1000 through the bottom grate.
2. Air is pulled through the carbon filter, which removes Volatile Organic Compounds (VOC's).
3. Air moves through the antimicrobial pre-filter to remove microorganisms.
4. Air is then further circulated through the destroy chamber and any residual aerosolized particles are exposed to germicidal UV-C light.
5. Air travels through the HEPA filter, which is 99.99% efficient at 0.3 micron particulate.

The combination of UV-C sterilization chamber with True HEPA* filtration delivers 99.99% purified air back into the workplace.

*A True HEPA filtration device or filter is the only type of HEPA filter that truly conforms to the DOE standard for HEPA filtration, has the highest efficiency, and hits the 99.97% threshold. If the HEPA filter does not meet the DOE's standards for HEPA filtration, then it is not considered True HEPA.

ASSEMBLY INSTRUCTIONS - UNPACKING

IN ORDER TO PERFORM THIS TASK, BE SURE TO WEAR THE FOLLOWING SAFETY EQUIPMENT: SAFETY GLASSES OR A FACE SHIELD, AS WELL AS GLOVES

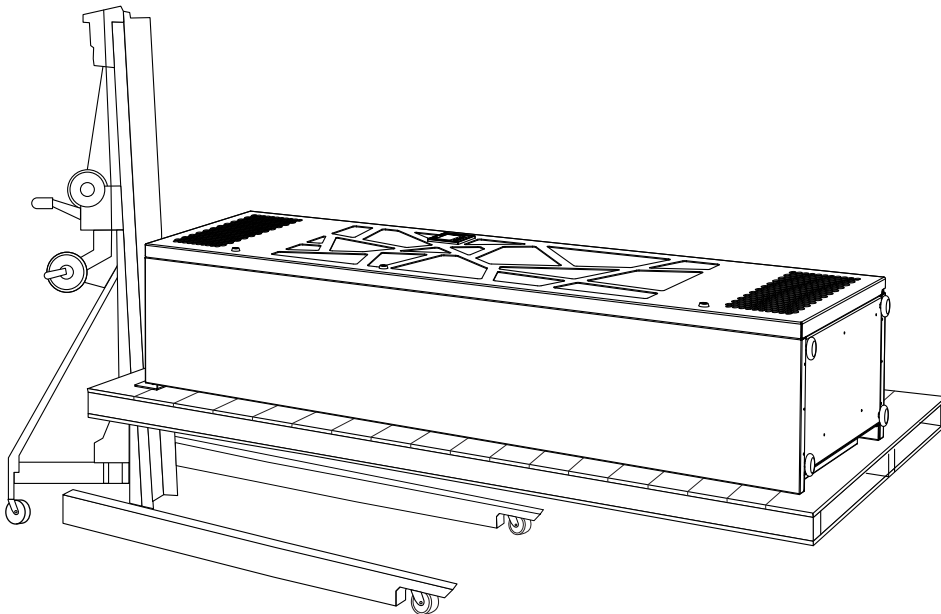


CAREFULLY READ ALL UNPACKING INSTRUCTIONS PRIOR TO UNPACKING UNIT

What is included in the packaging?

- (1) AV1000
- (2) User manual
- (3) Wall brackets
- (4) UV-C bulbs (10) 24W
- (5) One (1) Large Hex key (8mm)
- (6) One (1) Small Hex key (1/8")

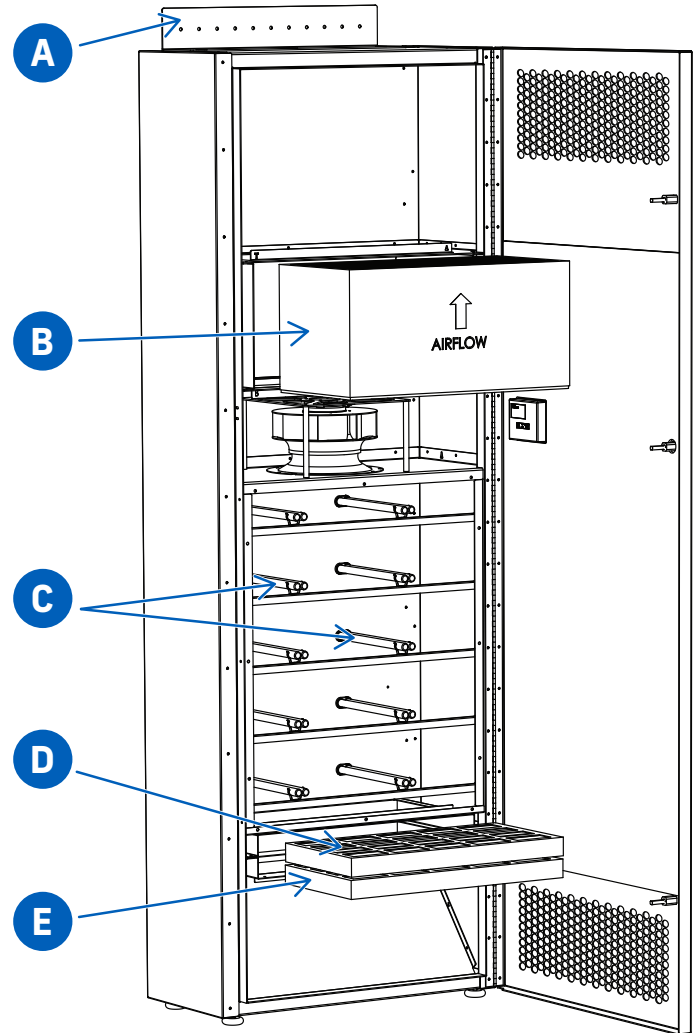
1. Inspect the AV1000 package for damage. Immediately record any packaging defects via photograph. Make a note to the shipping company on the manifest or waybill indicating that the carton was damaged. Then, send the damage report, waybill with damage noted, and photos to Pinnacle Climate Technologies (PCT).
customerservice@PinnacleClimate.com
2. PCT takes all possible precautions when packaging this device to prevent damage occurring during shipping. The AV1000 is shipped as one package, with a smaller package within the main package that contains the UV lamps.
3. Each of the MERV 8, Carbon, and HEPA filters are pre-installed and ready to use, to ensure maximum protection.
4. Do not discard the packing materials until the device is assembled and a working inspection is complete.
5. It is recommended to use the proper lifting equipment when transporting the unit to the final location where the unit will be installed (See Below).
6. You must install bulbs prior to use. See Page 11.



ASSEMBLY INSTRUCTIONS - PARTS AND REPLACEMENT INFORMATION

The AV1000 device consists of:

- A. Wall bracket (see pg.10 for installation instructions).
- B. A 99.99% efficient at 0.3-micron, True HEPA* filter.
- C. Ten (10) 24-watt OEM supplied Philips (by Signify) compact UV-C germicidal lamps designed for use in professional water and air disinfection units.
- D. A MERV 8 pleated filter.
- E. A MERV 6 carbon impregnated prefilter.



SCAN FOR REPLACEMENT PARTS

*A True HEPA filtration device or filter is the only type of HEPA filter that truly conforms to the DOE standard for HEPA filtration, has the highest efficiency, and hits the 99.97% threshold. If the HEPA filter does not meet the DOE's standards for HEPA filtration, then it is not considered True HEPA.

ASSEMBLY INSTRUCTIONS

Read all instructions prior to assembly.

Warranty is voided if the wall bracket is not installed and correctly secured to the wall.

NOTE: Due to the variable nature of the location of placement, the bolts for securing the unit to the wall are not included. A qualified installer is required to select the appropriate bolts for the specific structure.

REQUIRED TOOLS (NOT Included)

- One (1) Medium Hex Key (5/32")

1. Locate the studs for securing the L shape bracket (Fig.1) to wall, consult an engineer if required, and follow all local building codes and bylaws related to seismic restraint.
2. Put the unit in place and level it.
3. Remove 3 screws at the top of the unit, with included Medium Hex Key.
4. Secure the L shape bracket (Fig. 2) to the unit with screws or bolts. L bracket can either be mounted up or down.
5. Remove the bracket from the unit. Use the L shape bracket as a guide to mark drill holes on the wall where the 3 screws will go. Remove bracket from the wall and drill the holes. Bolt the bracket back to the wall. **Note:** when cutting or drilling into wall or ceiling, do not damage electrical wiring and other hidden utilities.
6. Line up slots on L shape brackets with the 3 screws that were previously removed. Reinstall the 3 screws to the unit with the Medium Hex Key and leave loose for final adjustment.
7. Make sure unit sits at 90 degrees with a level. The unit comes with four leveling legs, which can be adjusted to level the unit. If you need to adjust the rear leveling legs, remove the back cover. (Fig. 3)
8. Once the unit is leveled, tighten the 3 screws and unit to the L shape bracket attached to the wall.

Fig. 1

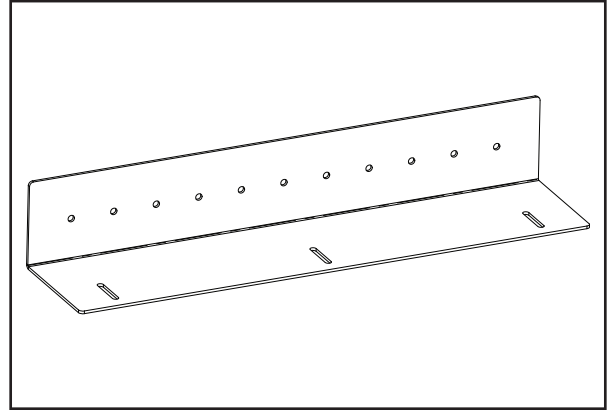
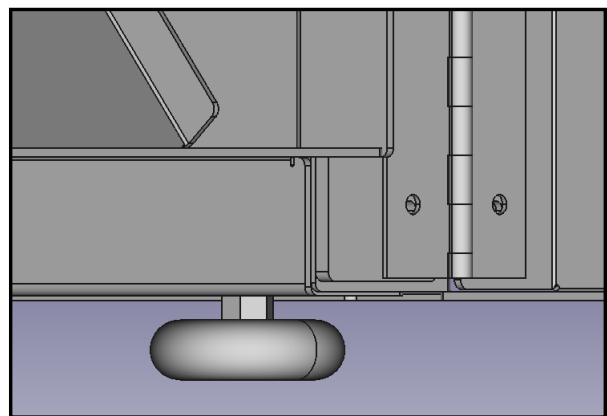


Fig. 2



Fig. 3



ASSEMBLY INSTRUCTIONS

The unit should be hung and secured before rigging and assembling it.

Always disconnect power to fixture before performing any service or maintenance.



IN ORDER TO PERFORM THIS TASK, BE SURE TO WEAR THE FOLLOWING SAFETY EQUIPMENT: SAFETY GLASSES OR A FACE SHIELD, AS WELL AS GLOVES.



1. If you are sure that there is no shipping damage, put on your safety goggles and gloves and remove the device from its packaging.
2. Ensure the machine is UNPLUGGED. Open the main door using the Large Hex Key.
3. Remove the UV-C chamber cover by removing the 12 screws with the Small Hex Key, as shown.
4. Using safety goggles and gloves, remove the lamps from their packaging. Do not touch lamp with bare skin, this will reduce the life of the bulb(s).
5. Insert each lamp into its socket, then secure lamps into their respective clamps.
6. Re-install the UV-C chamber cover and 12 screws with the Small Hex Key.
7. Close and secure the main door using the Large Hex Key, ensuring all latches are completely secured. The unit will not run if the door is not secured.
8. Once installed, follow the quick start guide to ensure the machine is working as expected.

REQUIRED TOOLS (Included)

- One (1) Large Hex key (8mm)
- One (1) Small Hex key (1/8")



QUICK START GUIDE

Plug the device into a standard, 120V outlet and follow these steps to verify proper operation.



You should see this as the initial start screen. Wait until the Start Center screen appears.



To start the unit first chose the desired running mode by pressing the shield button.

Defend – Normal Fan Speed

Defend Plus – High Fan Speed

Press the power button to start the unit.

The unit will run continuously.

To stop the unit, press the power button.

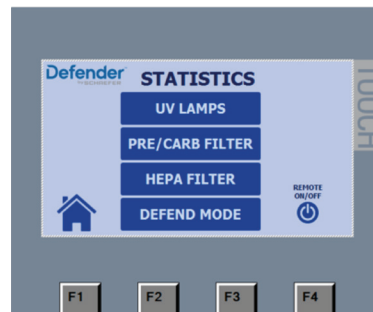


The “Start Center” page will appear on power up. To open the unit’s main screen, press the “Start” button in the center of the page.

DEFEND MODE SETTINGS



The main page will be locked by default on power up. To unlock the display, press the F4 button located at bottom right of the screen frame. The “SCREEN LOCKED” indication will disappear, and the screen controls can be manipulated. To relock the screen press F4. Ensure the door of the unit is closed.



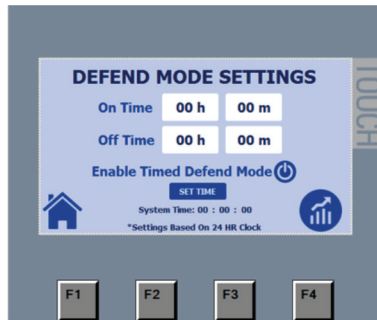
The AV1000 “Defend mode” can be used with a daily timer to switch from “Defend Mode Plus” (high speed) for a set amount of time.

To set the time for “Defend mode” press the SETTINGS button on the main page.

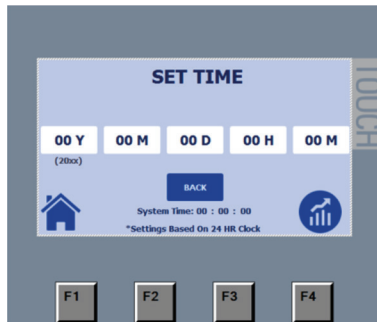
Press the DEFEND MODE BUTTON on the statistics page.

QUICK START GUIDE

DEFEND MODE SETTINGS CONTINUED



Before using the “Timed Defend Mode” setting ensure the time of day is reading correct. This is displayed in the “System Time” at the bottom of display. If the time is not correct press the “SET TIME” button

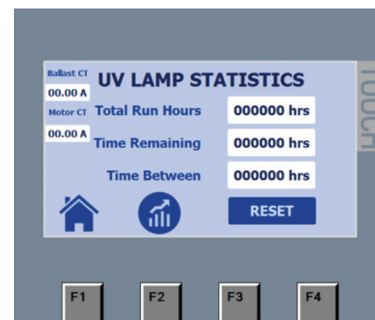


Set the time using the shown boxes.
**Note the year is only set with the last 2 digits Example: 2023 would be written as 23.*
 Press the “BACK” button to return to the timed defend mode page.

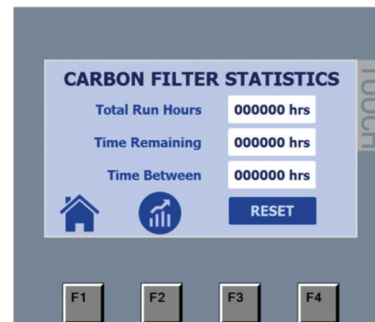


Enter in the desired time of day to switch from “Defend mode plus” to “Defend mode” the unit will operate in “Defend mode” within the specified timed period.
 Press the “Enable Timed Defend Mode” power button to enable the timed defend mode.
 Press the home button on the bottom left to return to the main page.

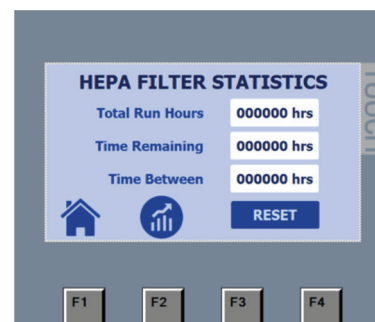
LAMP & FILTER STATISTICS



The total run hours and remaining hours for the UV bulbs can be found on the “Statistics” screen. The current draw of the light ballasts and motor are displayed in amperes on the top right-hand side of the page.



Total run hours and remaining hours can be found for the Carbon Filter. See the maintenance section for replacement information.



Total run hours and remaining hours can be found for the HEPA Filter. See the maintenance section for replacement information.

SERVICE INSTRUCTIONS & MAINTENANCE INFORMATION

The AV1000 is designed to operate with a minimal amount of maintenance.

UV Lamp:

The bulb is rated from the manufacturer for 7,000 hours of continuous use under normal operating conditions. The lamps are recommended to be replaced every 1-2 years to ensure their operational effectiveness.

HEPA Filter:

Required to be replaced once each year under normal operating conditions. HEPA filters are NOT washable.

Carbon Filter:

Required to be replaced quarterly each year (every 3 months) under normal operating conditions. Carbon filters are NOT washable.

ANNUAL GENERAL INSPECTION

The sealing integrity of the AV1000 is crucial. It is essential to verify that all gaskets are in proper condition to prevent any leakage or bypass of the contaminated air.

No motor maintenance is required.

LAMP BREAKAGE & DISPOSAL



WARNING



CAUTION

Do not override the safety interlock switch. Always disconnect power to the fixture before performing any service or maintenance. Operation of the fixture with the interlock switch overridden and the Access Door open will expose personnel to direct or strongly reflected germicidal ultraviolet rays. Germicidal ultraviolet rays are harmful to the eyes and skin. Avoid exposure to direct or reflected germicidal ultraviolet rays.

IN ORDER TO PERFORM THIS TASK, BE SURE TO WEAR THE FOLLOWING SAFETY EQUIPMENT: SAFETY GLASSES OR A FACE SHIELD, AS WELL AS GLOVES.



IN CASE OF BULB BREAKAGE

Wear protective gloves, safety glass, or a face shield when handling broken ultraviolet lamps. In the event of breakage, DO NOT use a household vacuum cleaner to pick up quartz fragments. Sweep debris into a plastic bag and dispose of properly.

Broken quartz is SHARP.



CAUTION



Germicidal ultraviolet lamps, like standard fluorescent lamps, contain small amounts of mercury. Mercury-added lamps should not be placed in the trash. Dispose of properly. For further information regarding the disposal and recycling of lamps containing mercury, reference the following source from the Environmental Protection Agency: <https://www.epa.gov/cfl/recycling-and-disposal-cfls-and-other-bulbs-contain-mercury>



SERVICE INSTRUCTIONS & MAINTENANCE INFORMATION

UV-C LAMP REPLACEMENT



1. Disconnect power from the device and unplug the power cord. WAIT ONE (1) MINUTE TO ALLOW FAN TO CYCLE DOWN TO A FULL STOP.
2. Put on safety goggles and gloves before unlocking and opening the door.
3. Open the main door using the included Large Hex Key.
4. Remove the UV-C chamber cover using the included Small Hex Key.
5. Using safety goggles and gloves, remove the old lamps from the clamps and sockets in the device and place them in a secure space where they will not fall or break.
6. Using safety goggles and gloves, carefully remove the new lamps from their packaging. Do not let skin touch the new bulbs. This will greatly reduce the bulb life.
7. Insert each lamp into its socket, then secure lamps into their respective clamps.
8. Re-install the UV-C chamber cover using the Small Hex Key.
9. Close and secure the main door using the Large Hex Key, ensuring all latches are completely secured.
10. Properly dispose of old lamps utilizing recycling procedures in your area. Refer to the previous page if a lamp breaks.



SCAN FOR HOW TO REPLACE LIGHT BULBS

FILTER & FUSE REPLACEMENT & DISPOSAL

HEPA FILTER & CARBON FILTER

Always disconnect power to the fixture before performing any service or maintenance.

WARNING



IN ORDER TO PERFORM THIS TASK, BE SURE TO WEAR THE FOLLOWING SAFETY EQUIPMENT: SAFETY GLASSES OR A FACE SHIELD, AS WELL AS GLOVES.



SCAN FOR REPLACEMENT PARTS

Description	Replacement Frequency	Part Numbers
HEPA Filter, 99.99% @ 0.3 micron	Every 12 months	D-AV1000-H
MERV 8, Pleated Filter	Every 3 month	D-AV1000-PF
Carbon Filter	Every 3 month	D-AV1000-CF
Annual Filter Pack (1 HEPA Filter, 4 Pre-Filters, 4 Carbon Filters, and lubricant)	As needed	D-AV1000-AFP
UV 24 W Bulb	Every 1-2 years	D-AV1000-UVC-1
UV 24 W Bulbs - Kit (10 bulbs)	Every 1-2 years	D-AV1000-UVC-10
Replacement Key, Small - Hex L-Key with Standard Tip, 1/8" Size, 3-15/16" Overall Length	NA	GC-02257
Replacement Key, Large - Hex L-Key with Standard Tip, 8 mm Size, 4-5/16" Overall Length	NA	GC-02194
Ballast	As needed	IUV2S36M2LD35M
2.0 Amp Fuse	As needed	GGM2
5.0 Amp Fuse	As needed	GGM5

FILTER-ALERT SYSTEM & FILTER REPLACEMENT

Proper maintenance of the unit is critical to extend the life and the overall efficacy of the system. The information below outlines basic maintenance procedures to ensure the unit will operate trouble-free for years to come.

When the HEPA filters have reached the pre-set total pressure drop of 1 inch of water, you will see a display warning on the HMI screen "Alarm message HEPA filter clogged."

FILTER & FUSE REPLACEMENT & DISPOSAL

FILTER REPLACEMENT

Please note that it is critical for the HEPA filters to be tight and secure to avoid by-pass of the contaminants.

Applying the provided lubricant to the gasket prior to installing new filter will make it easier to install and remove the filter.

To remove the HEPA filter, pull the handle and slide out the filter upward toward you. Be carefully not to damage the aluminum shield below the filter.

1. Disconnect power from the device and unplug the power cord
WAIT ONE (1) MINUTE TO ALLOW FAN TO CYCLE DOWN TO A FULL STOP.
2. Put on eye protection, face mask and disposable gloves.
3. Open the main door using the Large Hex Key.
4. Remove HEPA, Carbon filter and/or MERV 8 filter from its housing, noting airflow direction.
5. Install replacement filter into the housing, ensuring that airflow direction is correct. For HEPA filter replacement, the lubricant must be applied to the gasket.
6. Close and secure the main door using the Large Hex Key, ensuring all latches are completely secured.

FUSE REPLACEMENT

Please call a service technician to replace fuse.

There are two fuses. The fuse for the power supply is a GGM2, 2 amp 250V rated fuse. The fuse for the light circuit and the motor circuit is a GGM5, 5 amp 250V rated fuse.

Note: GGM type fuses are rated for voltages up to 250V. The fuse will be marked with a 250V rating.

1. Grasp plug and remove from the receptacle or other outlet device. Do not unplug by pulling on cord.
2. Open fuse cover by unscrewing the rear panel.
3. Remove fuse from the fuse holder carefully.
Risk of fire. Replace fuse only with appropriate fuse.
4. Close fuse cover by installing the rear panel with screws.



SCAN FOR HOW TO REPLACE FILTERS

TROUBLESHOOTING

IMPORTANT: This unit is to be serviced ONLY by qualified and appropriately trained and/or licensed personnel.



Always disconnect power to the fixture before performing any service or maintenance.

IN ORDER TO PERFORM THIS TASK, BE SURE TO WEAR THE FOLLOWING SAFETY EQUIPMENT: SAFETY GLASSES OR A FACE SHIELD, AS WELL AS GLOVES.



PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
Unit is not operating	No electrical power	Verify that unit is connected to a live power source
	Power connection to device is loose or disconnected	Verify power connection to device is fully engaged
Internal fan is not blowing	Loose power connection	Confirm connection to blower; connection is tight and makes full contact
	Faulty fan motor	Replace blower motor
UV Lamp is not functioning	Lamp ballast is not functioning	Swap lamp with known good lamp. If lamp still does not operate, replace ballast
	Lamp is not functioning	Swap lamp with known good lamp. If lamp still does not operate, replace with new lamp
	Lamp not properly seated	Confirm full contact of lamp to lamp holder
	Interlock switch open	Confirm access door is closed and locked
	Interlock switch faulty	Replace interlock switch
Key Pad is not responding	Display is locked	Press F4 Key on Display Screen
	Control is Frozen	Unplug unit, wait 5 minutes, plug unit back in to reboot
Unit is louder or making a whistling noise	HEPA Filter needs to be replaced	See page 17
	Air inlet or outlet is blocked	Clear openings and make sure there is not any loose materials blocking the filters internally

DISCLAIMER

KEEP THIS MANUAL IN A CLEAN, DRY PLACE FOR FUTURE REFERENCE.

The purchaser of this equipment (the "User") acknowledges and is aware of the contagious nature of the Coronavirus/COVID-19 and like viruses. **Use of this product does not guarantee that parties will not become infected with/exposed to Coronavirus/COVID-19 and other pathogens, including but not limited to influenza, SARS, MERS, Hepatitis, Varicella, Tuberculosis, Endemic Coronavirus, HPV, aerosolized mercury, etc.**

The User understands that the risk of becoming exposed to and/or infected by the Coronavirus/COVID-19 may result from actions, omissions, or negligence of the User and others, including, but not limited to, User staff, and other User clients and their families.

It is the User's responsibility to determine and validate the suitability of this equipment for use in the User's environment. No representation is made by the Manufacturer with respect to the suitability or performance of this equipment or to the impact that may result from its use.

Additionally, the user should periodically inspect the equipment, clean as necessary, and confirm the presence and good legibility of the product safety labels. Contact PCT for replacement labels.

If you need replacement parts, please call Pinnacle Climate Technologies (PCT) at 800-779-3267, or visit <https://schaeferventilation.com/contact-us/>.

All information, illustrations and specifications in this manual are based on the latest product information available at the time of printing. Product specifications subject to change without notice.

SCHAEFER LIMITED WARRANTY

Pinnacle Climate Technologies (PCT) provides the following limited warranty from the date of invoice to the initial purchaser of our products or to its customer with a dated proof of purchase:

I. A limited warranty with a brand- or product specific term (see Section III below) applies to all products, components and assemblies provided by PCT that prove to be defective in material or workmanship, unless noted below as an exception.

- Any such defective product will be replaced or repaired at PCT's option.
- Defective products shall only be returned to PCT with the approval of PCT and at customer's expense.
- Replacement products or repair parts will be shipped to customer at PCT expense.
- Field repairs will be performed by customer at customer's expense.

II. This limited warranty does not cover:

- a. Failure, damage or malfunction as a result of:
 - i. Improper installation or installation not in accordance with installation instructions.
 - ii. Operating conditions that reasonably would be expected to damage the product and/or vary from PCT's operating instructions.
 - iii. Misuse, abuse, negligence, alteration, or accident.
 - iv. Damage incurred while transporting the product.
 - v. Improper operation of the product.
 - vi. Lack of appropriate or regular maintenance of the product, including, but not limited to, operating the product with debris buildup on the motor or blade.
- b. Loss of time, inconvenience, loss of use of the product or other consequential or incidental damages.
- c. Wear part replacement.
- d. Superficial or cosmetic rust or corrosion.
- e. Damage to a product whose name plate has been removed.
- f. Damage to a product that has been modified in any way.

III. Warranty Term*

- Schaefer Defender – 2 years

* PCT reserves the right to add or remove brands, products or components to/from this Warranty Term List at any time. If there is a warranty term discrepancy between this Warranty Term List and the product's operating manual, the shorter of the terms shall apply.

IV. Other

- There are no warranties of merchantability or fitness of use.
- PCT reserves the right to change product designs and specifications without prior notice or liability.
- The above constitutes the sole warranty offered by Pinnacle Climate Technologies.

Effective Date: December 1, 2016

Return of Stock Merchandise

No merchandise may be returned without a Return Authorization from the Pinnacle Climate Technologies Customer Care Center. Return Authorization must be obtained within 30 days of the date of purchase. Return Authorizations expire 30 days after date of issue and will not be re-issued.

All returns must be shipped prepaid to the Pinnacle Climate Technologies location designated on the Return Authorization. For standard products in "like new" condition, credit will be issued minus a 25% restocking fee and any unpaid freight charges, after receipt and inspection of the product at Pinnacle Climate Technologies. For custom products and standard products returned in less than "like new" condition, the restocking fee will be determined upon inspection and will range from 30% to 100%. Obsolete products are not returnable.

SCHAEFER®

A BRAND OF PINNACLE CLIMATE TECHNOLOGIES™

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