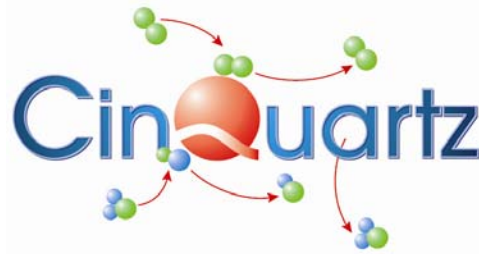


Five Seasons

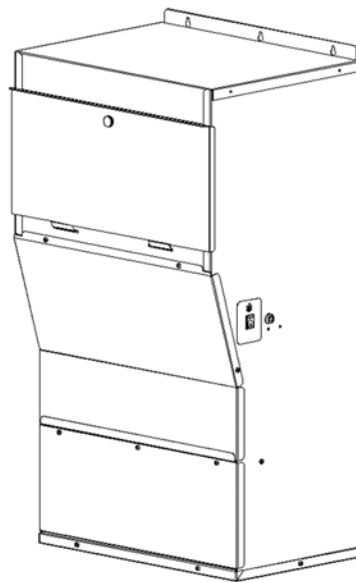


OWNER'S MANUAL

MODEL DM900UV-VO-A

WHOLE-HOUSE DUCT MOUNT HEPA AIR CLEANER WITH ULTRAVIOLET LAMP & PHOTO CATALYTIC FILTER

IMPORTANT: PLEASE READ MANUAL BEFORE OPERATING UNIT



Features

- Long-life, 99.97% HEPA (High Efficiency Particulate Air) Media Filter removes particles 0.3 micron and larger
- Carbon Prefilter removes lint and large particles, to extend life of HEPA Filter
- Two High Output Ultraviolet Germicidal Lamps
- CinQuartz™ Photo Catalytic Oxidation Filter removes unpleasant odors and Volatile Organic Compounds
- Carbon/ Potassium Permanganate Final Filter removes non-organic gases
- Kills or inhibits bacteria, viruses, mold, fungi and microbial growth
- Easy-to-change Filters and Lamps
- Powerful motor delivers 250 CFM of clean, sterilized air
- Heavy gauge galvanized steel cabinet and external powder-coat paint finish provides rigid installation and durability
- Plug-in Power Cord provides easy electrical connection
- Versatile installation can be duct mounted or collar mounted

SAFETY CONSIDERATIONS

Read and follow instructions carefully. Follow all local electrical codes during installation. All wiring must conform to local and national electrical codes. Improper wiring or installation may damage the Air Cleaner.

Understand the signal words **WARNING** and **CAUTION** which are present in the Owner's Manual. **WARNING** and **CAUTION** signify a hazard which could result in property damage, personal injury or death.

WARNING

Before beginning any installation or modification, be certain that the main line electrical disconnect switch for the system is in the **OFF** position. Failure to do this may cause electric shock or injury. Tag disconnect switch with a suitable warning label.

WARNING

This unit is designed to emit powerful ultraviolet radiation to sterilize microorganisms. It is dangerous to come in contact with or look at the light from this unit. Always turn the Air Cleaner **OFF** and **UNPLUG** the unit before opening panels or the filter access door.

Only a heating/air conditioning installer or qualified service person should install, repair, or service your Whole-House HEPA, Ultraviolet Light & Photo Catalytic Air Cleaner.

Homeowners or untrained personnel can perform the basic maintenance functions of replacing the filters or lamps.

When working on air cleaning equipment, observe precautions in the Owner's Manual, labels attached to the unit, and other safety precautions that may apply. Follow all safety codes. Wear safety glasses and work gloves.

WHAT THE HEPA, ULTRAVIOLET LIGHT & PHOTO CATALYTIC AIR CLEANER DOES

The Whole-House HEPA, Ultraviolet Light & Photo Catalytic Air Cleaner has been designed to remove particulate such as atmospheric and household dust, coal dust, insecticide dust, mites, pollen, mold spores, fungi, bacteria, viruses, pet dander, wood smoke, cooking smoke and grease, tobacco smoke and more.

The two non-ozone producing, high output Ultraviolet lamps provide germicidal sterilization for bacteria, viruses, mold and fungi and provide photons to the CinQuartz™ Media (Photo Catalytic Oxidation Filter) to reduce odors and Volatile Organic Compounds (VOC's).

A Final Filter containing a mixture of Carbon and Potassium Permanganate further reduces odors,

light and non-organic gases.

BENEFITS

- Helps provide relief from allergies, asthma, and other respiratory illness.
- Kills or inhibits bacteria, viruses, mold, fungi and microbial growth.
- Eliminates or reduces odors and gases emitted from air fresheners, carpets, construction materials, glues, household cleaners, paints, varnishes, personal care products, press board furniture and lots more.
- Helps reduce housekeeping time and redecorating costs.
- Provides a healthier, more comfortable environment, year-round.

HOW IT WORKS

Millions of airborne pollutants are carried through the return air ducts of the heating/cooling system. The Air Cleaner has been designed to be installed on the return air duct. A portion of this return air is by-passed through an opening on the rear or top of the unit and passes through a 5-stage filtration system.

The air passes through a pleated Carbon Prefilter to remove lint, large particles and heavy weight gases to extend the life of the HEPA and PCO filter.

Smaller particles then pass through a long-life, 99.97% HEPA (High Efficiency Particulate Air) Media Filter which captures particles 0.3 micron (1/84,000 of an inch) and larger. The filter becomes more efficient as it gets dirtier with time. This HEPA filter has more than 40 ft² of collection surface area.

The clean air passes through a reflection chamber where two High Output Ultraviolet (C band) Germicidal Lamps emit powerful UVC light rays which are designed to kill or inhibit bacteria, viruses, mold, fungi and microbial growth. These are non-ozone producing lamps. The Ultraviolet Light is also used to activate the unique CinQuartz™ Media located below the UV lamps.

The CinQuartz™ Photo Catalytic Oxidation (PCO) Filter is a Quartz media coated with nanoparticles of Titanium Dioxide (TiO₂). The combined action of the UV light and the TiO₂ decomposes organic materials into basic molecules such as H₂O and CO₂ and reduces odors and VOC's as a result.

Air then passes through a Final Filter containing a mixture of Carbon and Potassium Permanganate further reducing odors and light gases.

Clean air is discharged back into the return air duct.

NOTICE

This unit has only been painted on the exterior. There may be some over spray inside the galvanized steel cabinet and this is normal.

CAUTION

This unit is not intended for use where there are high levels of industrial chemicals present.

INSTALLATION

LOCATION

The HEPA Air Cleaner can be installed directly on the return air duct eliminating the need for external ducting. The unit can also be mounted on the floor, a wall or be suspended from the ceiling and with the use of collars, be ducted into the return air plenum. Care should be taken to keep the unit away from an area where there is a possibility of moisture leaking on to it. **Ensure there is at least 15 inches in front of the unit to allow removal of the filters and lamps.**

WARNING

This unit must be installed on the return air side of the system only. Do not connect to supply side. Do not install in a cooking area or connect directly to any appliance.

WARNING

When installing this unit directly to the return duct insure there is no exposed plastic or wiring directly in line with the exposed light from the lower mounting hole on the back of the unit. The UV light will cause deterioration to plastic.

CAUTION

This unit contains sharp edges. Always wear protective gloves when handling the unit.

GENERAL INSTALLATION STEPS

(Duct Mount) (see Fig. 1)

1. Before installing, remove any packaging. Open the door and remove the filters. Remove the lower panel on the front of the unit to remove PCO and VOC filters and the lamps and gloves which were packed at the bottom of the unit. See Maintenance for instructions to remove the filters.

WARNING

If you are installing this unit directly to the duct without using collars, **DO NOT** open the top or bottom collar mounting holes on the unit.

2. If the unit is to be mounted on the return air plenum, it must be installed after the last return branch connection on the plenum. If outside air is introduced into the return air duct, either through a HRV (Heat Recovery Ventilator) or direct, it should be added to the system before the intake inlet to the Air Cleaner.
3. Tape the mounting template level on the plenum and proceed to cut and drill the necessary holes as marked.

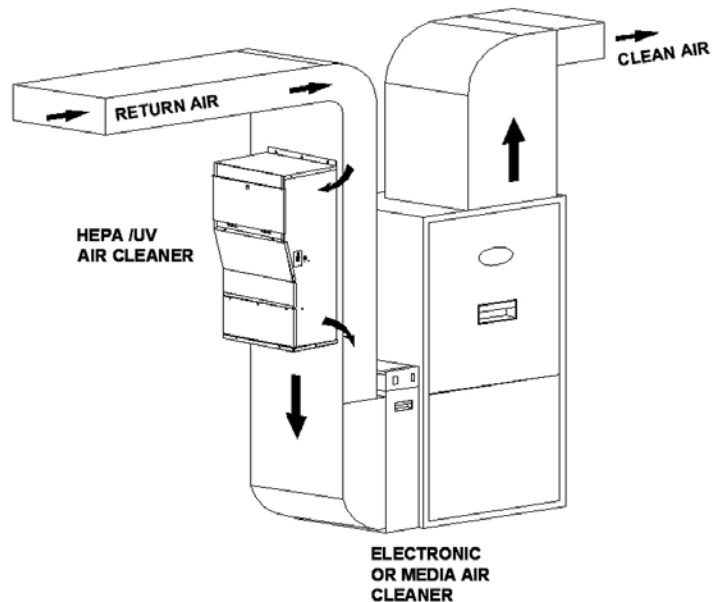


Fig. 1 – Duct Mount Installation

4. Remove the plastic film covering the back holes and snip the small joints in the middle of the mounting flaps on the back of the unit as indicated on the template. **Do not open the holes on the top or bottom of the unit if you are duct mounting the Air Cleaner.** Bend all the flaps outward slightly less than 90 degrees, except for the upper bottom flap which is only bent up 45 degrees. This bottom flap will act as a deflector for the exhaust air entering back into the plenum.
5. Place the gasket material around the two openings on the back of the air cleaner.
6. Place the unit on the plenum so the flanges are placed through the holes cut in the duct. Fold all the flanges, except the upper bottom flap, over to enclose the duct between the flanges and the unit. The upper bottom flap is only bent up 45 degrees.
7. Secure the unit to the duct with the screws provided.

GENERAL INSTALLATION STEPS

(Collar Mount) (see Fig. 2)

(Inlet collars are available as a kit from your distributor)

1. Before installing, remove any packaging. Open the door and remove the filters. Remove the lower panel on the front of the unit to remove PCO and VOC filters and the lamps and gloves which were packed at the bottom of the unit. See Maintenance for instructions to remove the filters.

WARNING

If the top and bottom openings are being used to install this Air Cleaner, ducting **MUST** be installed to ensure no light escapes from the unit.

2. This unit can be installed with collars and aluminum flexible ducting if desired. **DO NOT use plastic duct.** Openings are pre-punched on the top and bottom of the unit for this purpose. Remove the plastic film covering the holes and snip out the joints to open the hole. **Do not open the holes on the back of the unit if you are collar mounting the Air Cleaner.**
3. The collar is installed with the flange on the inside of the cabinet with only the collar ring on the outside of the cabinet. Compress the collar until you can insert the flange into the opening in the enclosure. Enlarge the collar to its maximum and install two screws into the ring to hold it to the proper diameter. Turn the collar in the hole until the holes in the enclosure line up to the holes on the collar flange. Secure with the screws provided.

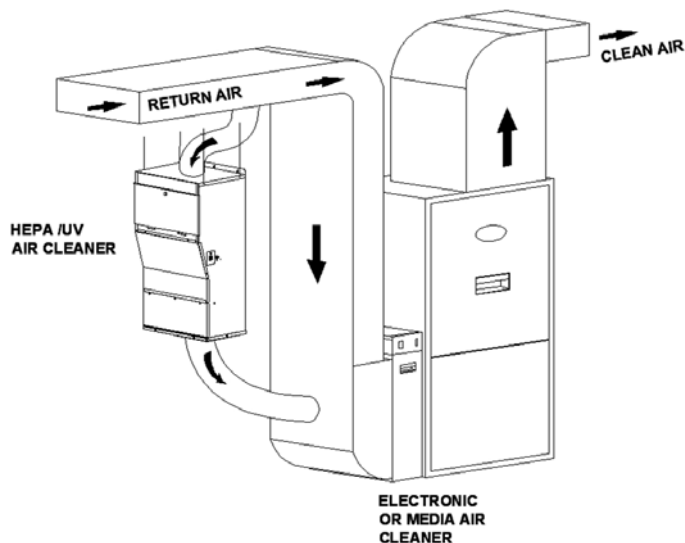


Fig. 2 – Collar Mount Installation

4. The intake collar on the return duct must be installed after the last return branch connection on the plenum. If outside air is introduced into the return air duct, either through a HRV (Heat Recovery Ventilator) or direct, it should be added to the system before the intake inlet to the Air Cleaner.
5. The 8 inch intake collar (top) must draw air from the return duct at a location that will be ahead of the clean exhaust air, that will be returned to the duct from the Air Cleaner.

An 8 inch collar will be installed on the return duct and a length of 8 inch flexible hose or duct is required to attach between the 8 inch intake collar and the collar on the return duct. When running the hose, make sure that there are no kinks or sharp bends that will impede the air flow to the unit. Secure and seal the hose and connections to prevent air leakage.

6. The 8 inch exhaust collar can be mounted in the same manner to the bottom of the unit. An 8 inch collar will be installed on the return duct close to the furnace and a length of 8 inch flexible hose or duct is required to attach between the exhaust collar and the collar on the return duct. **Do Not use plastic duct.** The ideal location is low on the return air boot pointing at the furnace. To prevent air shear inside the duct, it is recommended that you install a deflector inside the boot, so the discharged air is deflected down into the boot. When running the hose, make sure that there are no kinks or sharp bends that will impede the air flow from the unit. Secure and seal the hose and connections to prevent air and UV light leakage.

Alternate Installations

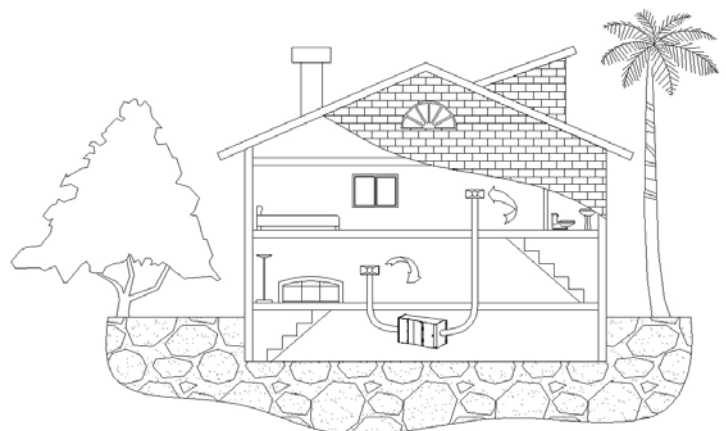


Fig. 3 – Self-Contained Basement Installation

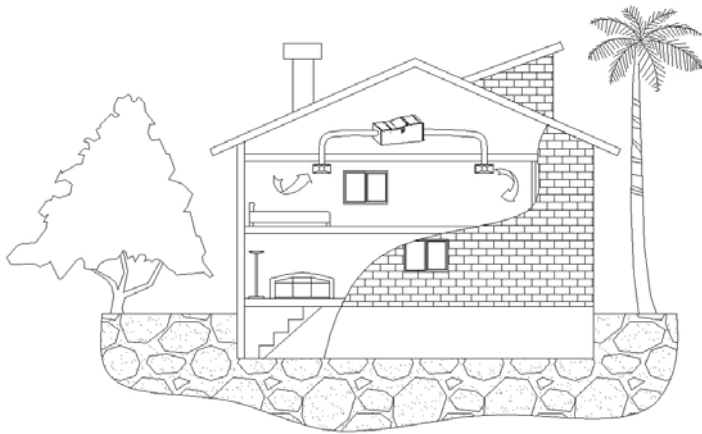


Fig. 4 – Self-Contained Attic Installation

AFTER INSTALLING AIR CLEANER

WARNING

Eye and skin damage may result from direct exposure to the light produced by the lamps used in this product. Make sure the Air Cleaner is **OFF** and **UNPLUGGED** before the lamp access panel is open.

CAUTION

Do not touch the lamp glass with bare hands. Always use the gloves provided when installing the lamps. The oil from your hands may reduce the effectiveness of the lamp. The lamp may be cleaned with a soft cloth dampened with water to remove finger prints.

1. Install the two UV lamps into the lamp holders. Follow the instructions given in the maintenance instructions. Use the cotton gloves provided when handling the lamps. Replace the four filters (see Fig. 5), close the filter access door and replace the lamp access panel. **Ensure all the screws are in place and tight.** Do not over tighten.
2. After the installation, the unit must be checked for sealing, both for air and light leakage. Any leaks to the Air Cleaner must be sealed with aluminum tape.
3. Turn the Air Cleaner ON and check for any leaks of light. There must be no visible blue light from the Air Cleaner. If you see any blue light from the duct connections cover the holes with aluminum tape.

CAUTION

When the unit is new or after the lamps have been replaced there may be a temporary odor. An odor may also occur with high concentrations of chemicals in the home such as paint or strong cleaning solutions. Both odors are temporary and should dissipate within a short time.

WARNING

Never use the Air Cleaner without all of the filters in place and all cover panels and doors closed. Make sure all the screws are in place.

OPERATING INSTRUCTIONS

The Air Cleaner is designed to run continuously to provide clean, filtered air 24 hours a day. The fan on the heating/cooling system, to which the Air Cleaner is dependent on for circulated air, should be on 'continuous' setting.

Running the Air Cleaner intermittently will shorten the effective life of the lamps.

The Air Cleaner plugs into a regular 120 volt outlet and is controlled by a switch located on the side of the unit, near the cord.

Note: Do not allow the cord to be placed where it may be walked on or allow anything to roll over it.

MAINTENANCE

CAUTION

Make sure to turn the Air Cleaner **OFF** before performing any maintenance or removing any filters.

For efficient operation, the filters must be changed on a regular basis. If you notice a reduction in air flow from the system, check the filters.

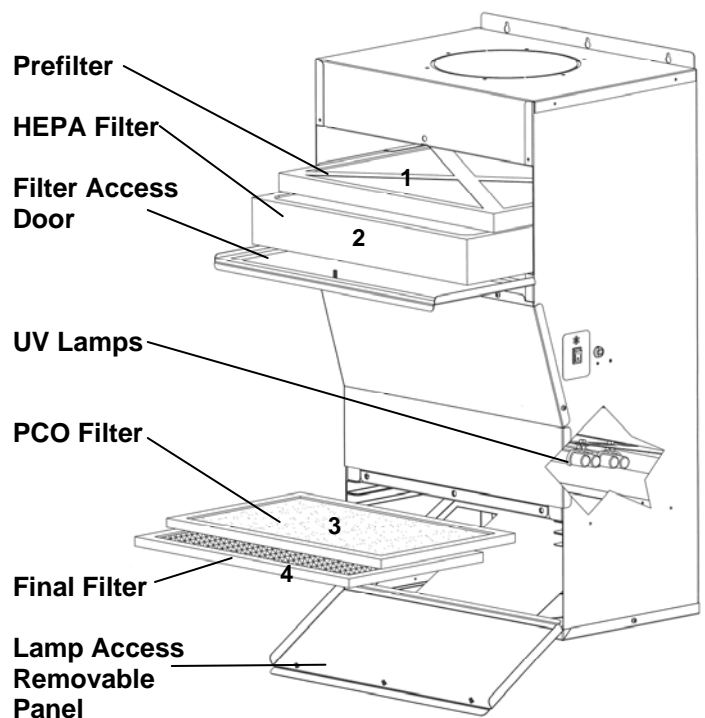


Fig. 5 – Air Cleaner Layout

Replacing the HEPA Filter and Prefilter

CAUTION

When replacing the filters wear disposable gloves and a dust mask.

1. To access the filters, turn the Air Cleaner **OFF** at the switch and open the top front door.
2. Carefully remove the filters to avoid spilling of collected contaminants. Dispose of filters in a plastic bag and discard with regular household trash.
3. Remove the plastic from the new filters before installing. Discard plastic safely. Take care not to damage the filters. Hold by the filter frame only.
4. Date the replacement filter in the space provided.
5. Place the filters in their appropriate track with the arrows pointing toward the fan.
6. Use genuine replacement filters only. Call the original installer for parts.

Note: When the filters are new, you may notice a new smell from the system. This is normal and will dissipate within a few hours.

Prefilter (#DM900-0855): This must be replaced every 3-6 months. A clean Prefilter will increase the life of the HEPA Filter and improve airflow.

HEPA Filter (#DMH4-0400): Replace every 2-3 years. The life of this filter depends on the amount of contaminants in the air and the frequency in which the Prefilter has been changed. Renovations in the home that create wood, drywall dust or similar contaminants will shorten the life expectancy of the HEPA filter.

Note: Handle the HEPA filter by the frame only. The paper is fragile and a puncture or tear will reduce efficiency.

Replacing the UV Lamps, PCO Filter and Final Filter

WARNING

Make sure the Air Cleaner is **OFF** and **UNPLUGGED** before opening the lamp access panel.

WARNING

Eye and skin damage may result from direct exposure to the light produced by the lamp used in this product. **NEVER** open the lamp access panel without having the Air Cleaner unplugged.

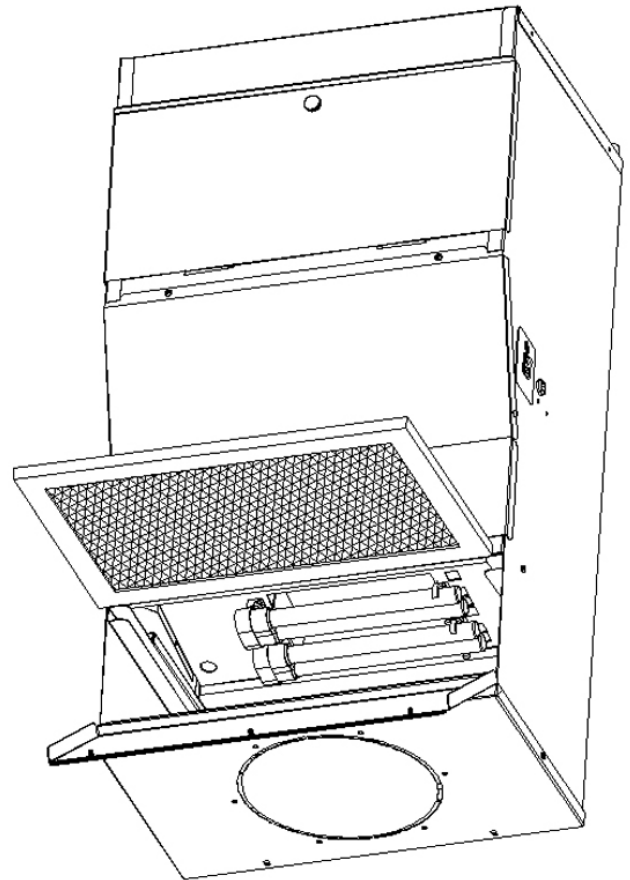


Fig. 6 – Lamp Access Panel

CAUTION

When replacing the filters wear disposable gloves and a dust mask.

1. To change the PCO filter, Final filter and UV lamps, turn the Air Cleaner **OFF** and **UNPLUG** it. Remove the screws from the lamp access panel and remove the panel. **DO NOT** misplace the parts.

CAUTION

The lamps operate at a very high temperature. Allow the lamps to cool 10 minutes before touching.

CAUTION

Do not touch the lamp glass with bare hands. Always use the gloves provided when installing the lamps. The oil from your hands may reduce the effectiveness of the lamp. The lamp may be cleaned with a soft cloth dampened with water only.

2. Carefully remove the filters to avoid dusting of filter. Dispose of the filters in a plastic bag and discard with regular household trash.
3. To remove the lamp from the lamp socket, pull the lamp, by the base, away from the lamp

socket. Remove the lamp from the support clip. Remove the plastic lamp support clips by pinching the back of the clip and lightly pulling away from the reflector.

4. Before replacing the lamps, the reflector should be cleaned with a soft cloth and mild non-abrasive soap.
5. Replace the support clips by pressing them into the hole in the reflector.
6. **NEVER** use any lamp other than from the original manufacturer. **NEVER** run the Air Cleaner with only one lamp.
7. When replacing the lamp, use gloves to prevent oil from being deposited on the glass. Hold the lamp by the base and slide the glass end into the plastic support clip. Slide the lamp straight into the lamp socket until the lamp locks into place.
8. Remove the new PCO filter from the bag and slide into the upper track under the lamps with the fuzzy side towards the lamps. During shipping and handling a small amount of white dust is created. This can be cleaned by vacuuming. **DO NOT** vacuum the filter.
9. Remove the final filter from the bag and slide it into the track below the PCO filter with the arrow pointing away from the PCO filter.
10. Replace the lamp access panel tightening all screws. Do not over tighten.

Note: When the filters are new, you may notice a new smell from the system. This is normal and will dissipate within a few hours.

The PCO Filter will discolor with use. This is normal.

PCO Filter (#DM900-0450): This must be replaced every 2 years.

Final Filter (#DM900-0810): This must be replaced at least once a year.

UV Lamp (#DM900-0191) (2 required): Replace every 2 years. Includes lamp support clip. The lamp may still light after 2 years but the intensity of the germicidal wavelength will be reduced.

UV Lamp / PCO Filter Kit (#DM900-1002): Kit contains 2 UV lamps, 2 lamp support clips, 1 PCO filter and gloves.

CAUTION

Always dispose of plastic bags safely. Do not allow children or pets to play with empty plastic bags.

CAUTION

The lamps used in this air cleaner contain a very small amount of mercury (Hg). The lamps should be disposed of according to local ordinances or refer to www.lamprecycle.org.

CAUTION

The lamps contain a very small amount of mercury (Hg). In case of accidental breakage, handle with extreme care. According to the EPA website, open windows in the affected area and leave the room for 15 minutes. Do not vacuum or use a broom to clean. Wear a dust mask and use disposable gloves. Scoop fragments using stiff paper or cardboard. Place fragments in a plastic bag. Wipe area with damp paper towels and place towels in the plastic bag. Seal bag and dispose of waste following local guidelines. Wash hands with mild detergent and water. See the EPA website (www.epa.gov) for more information.

TECHNICAL DATA

Dimensions	Height Width Depth	29.5 in 16.25 in 12.75 in	74.9 cm 41.3 cm 32.4 cm
Intake		14.5 x 3.75 in or 8 in (dia)	36.8 x 9.5 cm or 20.3 cm (dia)
Outflow		14.5 x 4.37 in or 8 in (dia)	36.8 x 11.1 cm or 20.3 cm (dia)
Unit Weight		47 lbs	21.3 kg
Input Voltage		120 V 60 Hz	
Power Consumption		200 Watts	
Air Flow		250 CFM	424.8 m ³ /hr
Cabinet		22 gauge	
Power Cord		9.0 ft	2.74 m
Filter Dimensions	Prefilter HEPA Filter PCO Filter Final Filter	16 x 12 x 1 in 16 x 12 x 2.5 in 16 x 10 x 0.375 in 16 x 10 x .5 in	40.6 x 30.5 x 2.5 cm 40.6 x 30.5 x 5 cm 40.6 x 25.4 x 0.95 cm 40.6 x 25.4 x 1.3 cm
Ultraviolet Power in Reflector		>10,000 µW/cm ²	
HEPA Collecting Surface Area		40 ft ²	3.7 m ²

**WHOLE-HOUSE HEPA, ULTRAVIOLET LIGHT & PHOTO CATALYTIC AIR CLEANER
LIMITED FIVE (5) YEAR WARRANTY**

FIVE YEAR WARRANTY - This FIVE SEASONS product is warranted to be free from electrical and mechanical defects in material and workmanship, under normal use and maintenance, within its listed capacity, for a period of five (5) years from the date of purchase, excluding the fan/motor assembly, lamps or lamp ballast which are warranted for one (1) year from the date of purchase. This warranty does not include the Prefilter, Final Filter, CinQuartz™ Photo Catalytic Oxidation Filter, Final Filter or the HEPA Filter. The FIVE SEASONS product must not have been moved from the site of original installation. A new or remanufactured part to replace the defective part will be provided without charge for the part itself, through an authorized FIVE SEASONS service dealer, provided the defective part is returned to the FIVE SEASONS distributor **prepaid**. The replacement part assumes the unused portion of the warranty. **Proof of Purchase and Installation** must be provided. Failing this, FIVE SEASONS will guarantee the unit for a period of sixty (60) months from the date of manufacture, according to the manufacturer's records and conditions stated in this warranty.

THIS WARRANTY DOES NOT INCLUDE ANY ADDITIONAL LABOR ALLOWANCE OR OTHER COSTS incurred for diagnosis, repairing, removing, installing, shipping, servicing, or handling of either defective parts or replacement parts.

LIMITATIONS OF WARRANTY - All implied warranties (including implied warranties of merchantability) are hereby limited in duration to the period for which the limited warranty is given. The expressed warranties made in this warranty are exclusive and may not be altered, enlarged, or changed by any distributor, dealer or other person whatsoever.

FIVE SEASONS COMFORT LIMITED WILL NOT BE RESPONSIBLE FOR:

1. Normal maintenance as outlined in the Owner's Manual including cleaning and/or replacement of filters and ultraviolet lamps.
2. Damage or repairs needed as a consequence of any misapplication, failure to perform normal maintenance, negligent handling, improper servicing, unauthorized alteration, or improper operations.
3. Damage or repairs required as a consequence of faulty installation or application by others.
4. Failure to start due to voltage conditions, blown fuses, open circuit breakers or other damages due to the inadequacy or interruption of electrical service.
5. Damage as a result of floods, winds, fires, lightning, accidents, corrosive atmosphere, or other conditions beyond the control of FIVE SEASONS COMFORT LIMITED.
6. Parts, including filters and ultraviolet lamps, not supplied or designated by FIVE SEASONS COMFORT LIMITED.
7. FIVE SEASONS COMFORT LIMITED products installed outside of the continental Canada, U.S.A., Alaska and Hawaii.
8. Any personal injury, special indirect or consequential property or commercial damage of any nature whatsoever. Some States do not allow the exclusion of incidental or consequential damages, so the above limitation may not apply to you.

Model No.

Serial No.

Date of Installation

Installed By

Owner's Name & Address

RETAIN THIS CERTIFICATE WITH YOUR DOCUMENTS

FIVE SEASONS COMFORT LIMITED

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