

# ***SECOND WIND AIR PURIFIERS***

# **INSTALLATION and SERVICE MANUAL**



**MODEL 1000KCS**  
**MODEL 1002KCS**

# SAFETY CONCERNS

## WARNING: FAILURE TO FOLLOW THESE RULES MAY RESULT IN SERIOUS PERSONAL INJURY

- 1 Read instruction manual before operating the units.
- 2 Eye damage may result from directly viewing the light produced by these lamps. To reduce the risk of exposure to UV radiation, take UV-radiation protective measures for personnel during servicing.
- 3 This fixture is designed for use with germicidal UV-C lamps and must be installed in compliance with competent technical directions so that user's eyes and bare skin will not be subjected to injurious rays.
- 4 UV Light Hazard. To prevent exposure to ultraviolet light, be sure the ultraviolet air treatment system is disconnected before servicing any part of the HVAC system or removing any access panel or the equivalent.
- 5 There shall not be any openings in the duct that would emit light.
- 6 There shall not be any duct supply or return air openings or any other openings that are in direct line-of-sight of the UV bulb.
- 7 Check damaged parts: Before further use of the unit, any damaged part should be carefully checked to ensure that the unit will operate properly. Any part that is damaged should be properly repaired or replaced.
- 8 Always service unit with Second Wind replacement parts & recommended accessories (i.e. lamps, ballast).

## CAUTION:

- 1 Personal Injury Hazard. Power supply can cause electrical shock. Disconnect power supply before servicing or beginning installation.
- 2 Risk of exposure to excessive ultraviolet (UV) radiation—Do not operate without complete lamp enclosure in place or if sight lens is damaged.
- 3 Equipment Damage Hazard. Ultraviolet light can cause color shift or surface degradation and sometimes structural degradation of non-metallic components. Select mounting location that prevents exposure to plastic flexible duct components, polyurethane foam insulation material, rubber hoses, wire insulations, etc. If mounting options are limited, items above should be protected with ultraviolet resistant materials such as aluminum foil, aluminum duct tape, or metallic shields.

## INSTALLATION LOCATION:

1. See page 6 for possible installation locations.
2. Products shall be mounted only on to metal air ducts.
3. Mounting shall be such that all surfaces in the duct where appliance forms parts of the duct shall be made of metal.
4. All wiring within adjacent heating and air conditioning equipment, for example, shall be shaded from direct line-of-sight from the UV bulb or shall be UV-rated.

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# UNPACKING

Your new Second Wind Air Purifier is shipped complete in one container. Carefully unpack the unit and all loose items from the shipping container. Figs. 2 illustrate the unit and all loose items packed with the unit.

- 1 Unit
- 2 Warning Labels
- 3 Installation Manual
- 4 Metal template and mounting plate
- 5 Cord

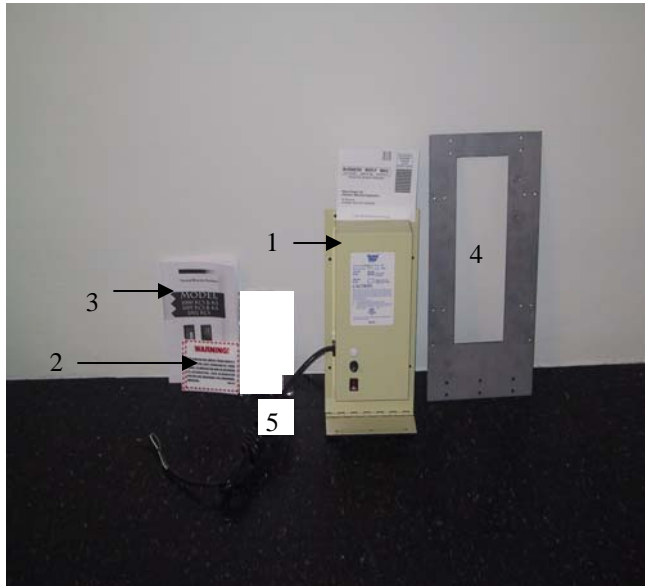


Fig.2

# POSSIBLE INSTALLATION LOCATIONS 1000KCS and 1002KCS

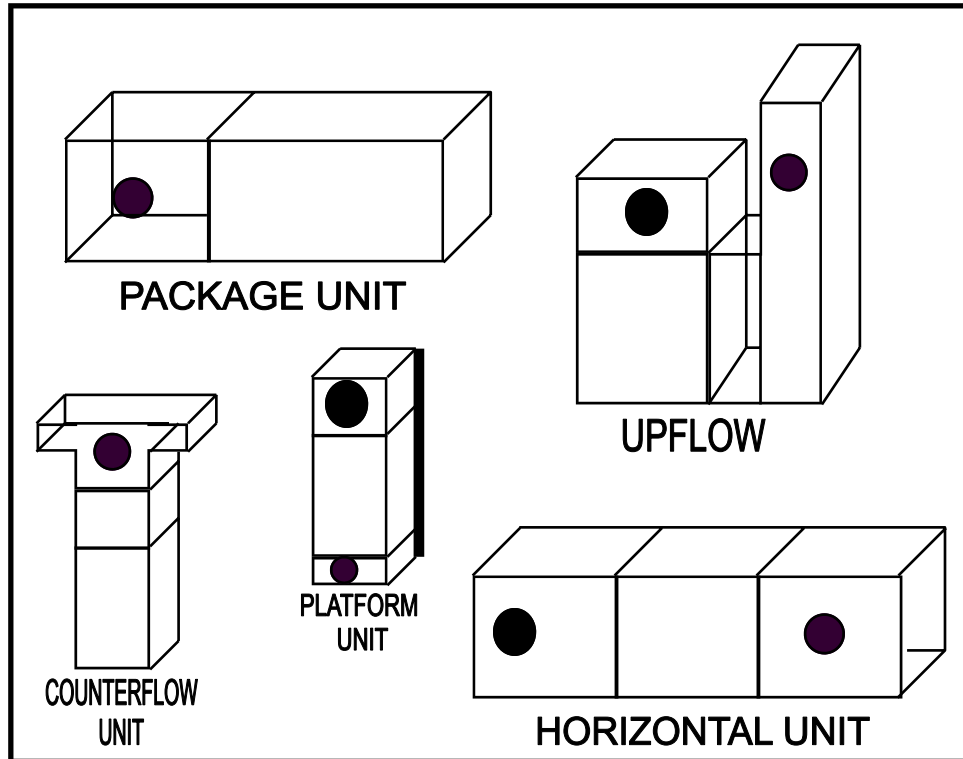


Fig.3

The Second Wind Air Purifier has been tested effective in the destruction and reduction of bacteria, viruses and fungus under various conditions. The effectiveness of this device may vary depending upon room area and rate of circulation. The health aspects associated with this product were not investigated by U.L.

**WARNING!!!**

**DO NOT LOOK AT THE ULTRA-VIOLET LIGHT**

**DO NOT OPERATE UNTIL IT IS INSTALLED IN THE RETURN OR SUPPLY.**

**IF NON-UV RESISTANT FILTER MEDIA IS PRESENT, INSTALL THE UNIT 36" AWAY**

**TO DETERMINE AN INSTALLATION LOCATION SEE: FIG.3**

# Installation 1000KCS and 1002KCS

- Installation should be done by a qualified HVAC contractor.
- Read all safety instructions at the beginning of this manual.
- CAUTION: Equipment Damage Hazard. Ultraviolet light can cause color shift or surface degradation and sometimes-structural degradation of non-metallic components. Select mounting location that prevents exposure to plastic flexible duct components, polyurethane foam insulation material, rubber hoses, wire insulation, etc. If mounting options are limited, items should be protected with ultraviolet resistant material such as aluminum foil, aluminum duct tape, or metallic shields
- IF NON-UV RESITANT FILTER MEDIA IS PRESENT, INSTALL UNIT 36" AWAY

- 1 Use the metal template/mounting bracket to pencil out rectangle to cut out. (Fig.4)
- 2 Use the drill and a 1/2 inch drill bit to cut a hole along the inside of the marked circle. (Fig.5)
- 3 Use tinsnips to cut out the rectangle (Fig.6).
- 4 Make sure lamps on the 1000 series units are pointed in the direction of the airflow. There are arrows pointing to the direction the air must pass across the lamps. If not, remove the lamps from the brackets and turn them around.
- 5 Install mounting plate around opening in duct with zip screws. (Fig.7)
- 6 Use the self tapping sheet metal screws to secure the unit to mounting template. (Fig.8)
- 7 Make sure the power is off to the blower before wiring unit.
- 8 For the 1000KCS : With the switch in the off position, plug the unit directly into a 120 vac outlet. Turn the switch to the on position.
- 9 The 1002KCS air purifier is designed to turn on and off with the forced air blower. Wire the unit into the HVAC system to come on and off with the blower. If lamp is operating the sight glass will illuminate. If it is not see the troubleshooting section.



Fig.5



Fig.6



Fig.7



Fig.8



Fig.4

## TOOLS FOR INSTALLATION

- 1 Marker
- 2 Tinsnips
- 3 Drill
- 4 Drill Bits
- 5 5/16" & 11/32 "Nut driver
- 6 Tape Measure
- 7 Metal Template and Mounting Bracket

# Lamp Replacement

Second Wind Air Purifier lamps are designed to be on all the time. After approximately 9000-11000 hours of operation the lamps intensity will decrease. Installation of a replacement lamps is best handled by a HVAC Contractor. **Both lamps must be replaced at the same time for the MODEL 1000KCS.**

- 1 Turn unit off and make sure the power is off to the unit.  
Wait for lamp to cool.
- 2 Remove screws from around the unit, do not remove the screws from the hinge. (Fig.13)
- 3 Drop unit down, it will remain attached to the duct via the hinge. (Fig.14)
- 4 Carefully remove lamp from brass lamp holders. (Fig.15)
- 5 Remove lamp connector from end of lamp. (Fig.16 & Fig.17)
- 6 Install new lamp into socket and snap into brass holders.
- 7 Return unit to upright position against duct and re-attach with screws.
- 8 Power unit up and turn on.

## NOTE :

UV Lamps contain mercury like other fluorescent lamps and must be disposed of properly. Do not throw old lamps in the trash. Contact your local waste collection agency for proper disposal procedures.

## \*\*\*\*\* ATTENTION \*\*\*\*\*

Units built prior to serial number 10260 use two (2) # 1068 lamps. Units built after to serial number 10260 use (1) 1068 & (1) 1068A lamp. Replace both at the same time.

If the lamps are dirty or have fingerprints on them, use alcohol to remove.

The 1000KCS purifier has two different lamps and unit is always powered ON.

1. 1-split lamp part # 1068
2. 1- straight lamp part # 1068A



Fig.13

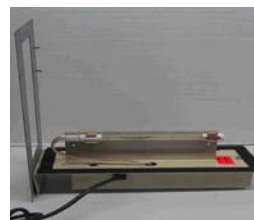


Fig.14



Fig.15



Fig.16



Fig.17

# TROUBLESHOOTING

- 1 Make sure that the unit is wired properly and is turned on.
- 2 Check the on/off switch to make sure it is on.
- 3 If the lamp is still not on, switch the unit off, disconnect power and check the fuse.
- 4 Make sure the lamp is not broken and that it is in the socket.
- 5 If the lamp is still not on, check the ballast .

## 1000KCS units

- 1 Make sure that the unit is wired or plugged into a 120 -277 vac feed that is always on.
- 2 Check the on/off switch to make sure it is on.
- 3 If the lamp is still not on, switch the unit off and check the fuse.
- 4 Make sure the lamp is not broken and that it is in the socket.
- 5 If the lamp is still not on the ballast of the 1000KCS unit is not working, call for replacement.

## 1002KCS

- For the 240 vac units 1002kcs the ballast resistance should be tested like before. **Disconnect power.** For the 240 vac ballast (#SS2060446) the resistance should be 14-25 ohms. If below 14 ohms replace the ballast.
- **If everything else has been checked and is fine, but the lamp is still out, the ballast starter is blown and the ballast should be replaced.**

## 1000KCS units

Built prior to serial number 10260

### **Lamp will not light**

Check power to outlet and unit.

Turn off unit and check fuse.

Turn off unit and open cover to check connection to lamp.

If all prior checks are OK check the ballast.

Measure the resistance of the ballast from the black to blue wire using an OHMS meter.

Turn unit off, open cover:

Ballast number SSGPH287P resistance should read 16—30 ohms, if below 16 replace the ballast.



**ATTENTION:** Replacement Lamps for Model 1000KCS with Serial # 10259 & down use 2—1068 Lamps, Serial # 10260 & up use 1-1068 and 1-1068A Lamp. **ALWAYS REPLACE BOTH LAMPS AT THE SAME TIME.**

## Replacement Parts

1	Ballast 240 vac (1002KCS)	1053
1	Ballast 120/277 vac	1651C
2	Interlock Switch	1050
3	On/Off Switch 120 V	1061
	On/Off switch 240 V	1057
4	Fuse Assembly	1054
5	Fuse	1055
6	Power Cord	1124
7	Lamp Connector	1014
8	9 “ Split Lamp 1000KCS	1068
9	9 “ Straight Lamp 1000KCS	1068A
	Serial 10260 & up, 1-1068 & 1-1068A	
10	Sight Glass	1078
11	18 “ Lamp 1002kcs	1067

# Second Wind Air Purifier

Models:

1000KCS

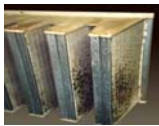
1002KCS

## Ultraviolet Germicidal Units for Heating Ventilation and Air Conditioning Systems

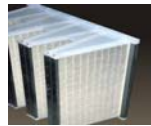


Since the first ultraviolet irradiation system was used successfully in 1909, ultraviolet irradiation has had a 94 year performance history. Second Wind uses the ultraviolet wavelength at 253.7nm, ultraviolet radiation lethal to microorganisms. Second wind air purifiers can reduce mold, bacterial, or viral airborne microbes in all areas of a Heating Ventilation and Air Conditioning system (HVAC).

Return Before



Return After



Second Wind air purifiers can also address Volatile Organic Compounds (VOC's), through the addition of Singlet oxygen molecules (O1). Singlet oxygen in this case is achieved by the use of our high intensity ultraviolet lamps. There are two different wavelengths of light that work together to produce singlet oxygen. Gas contaminants are oxidized in a reaction that takes place with the singlet oxygen, changing the contaminates molecular structure.

The Second Wind Purifier is the perfect choice for small or large applications. Second Wind uses ultraviolet germicidal light and singlet oxygen process to disinfect mold, bacteria, infectious disease, and decrease volatile organic compounds in the air stream. Second Wind air purifiers are designed for surface and air disinfection.

### *Features and Benefits*

- Available for all applications
- Disinfects mold
- Inexpensive to operate
- Surface and Air Indoor Air Quality Control
- Proven effectiveness through independent test data
- High intensity Ultraviolet Lamps
- Singlet oxygen process to reduce VOC levels
- Limited Lifetime Unit Warranty 1000KCS
- 5 year ballast warranty 1000KCS
- 3 year ballast warranty 1002KCS
- 1 year lamp warranty 1000KCS and 1002KCS
- Over 9000 hours lamp expectancy
- Electronic start power supply ranges from 120/277 VAC
- Class II medical device #K980745
- Registered with the EPA #73112

# SPECIFICATIONS

Second Wind Air Purification 1000KCS and 1002KCS units are mounted in the return to accommodate most HVAC systems. The units install anywhere in the system to disinfect molds, bacteria or reduce VOC contamination. The housing is steel and comes in 2 sizes (9" and 18" lamps). All units are manufacturer assembled and tested.

**Models 1002KCS:**

The power source is a electronic, Class P, Sound rated A, Type HL, NO PCB's, type 1 outdoor ballast meeting EMI requirements of CFR Title 47 Part 18 consumer. The operating range is 240VAC and the current is 425ma@240vac. The ballast is designed to operate at any airflow and relative humidity.

**Models 1000KCS:**

The power source is a electronic, Class P, Sound rated A, Type HL, NO PCB's, type 1 outdoor ballast meeting EMI requirements of CFR Title 47 Part 18 consumer. The operating range is 120/277 VAC and the current is 425ma@120vac. The ballast is designed to operate at any airflow and relative humidity.

Second Wind lamps operate at 253.7 nm, ideal for air disinfection, good for use at any velocities, temperatures ranging from 30 - 170 F. Every lamp has an extended lamp life coating which helps maintain intensity levels at 85% even after a year of operation. They are a High Output (HO), T5 (15mm) diameter, lamp yielding 2/3 more output than standard lamps of the same length. Base of the type "L" quartz glass is ceramic, with triple-coiled electrodes made of molybdendum lead in a clamped filament design. Lamp connectors are 4-pin single ended circling sockets. Lamp life shall not be less than 9000 hours.

*Submitted device shall be tested under typical HVAC conditions and in accordance with the general provisions of IES Lighting Handbook, 1981 applications Volume. Total output per one inch arc length shall be not less than 10uW/cm2 at 1 meter in air of 45 F and 400 fpm*

**Dimensions:**

1000KCS- 6"W x 3.25" H x 14"L x 2-9" Lamps  
 1002KCS - 6"W x 3.25"D x 23"L x 2-18" Lamps

**Weight**

1000KCS - 6 lbs.  
 1002KCS - 10 lbs.

**Power Electronic Ballast**

**1000KCS:** 120-277 VAC  
**1002KCS:** 240 VAC

**Lamps**

	<b>18"</b>	<b>9"</b>
Base Face in. -	17.2	8.4
Length mm -	436.0	212.0
Arc Length in.-	14.2	5.2
mm -	360	131
Current mA-	425	425
Wattage W-	40	25
Voltage @60Hz-	86	32
UV Output W-	10	5
UV Output @1M uW/cm2 -	75	35
Lamp life hours-	9000	9000

**Wiring**

Number 18 teflon coated wire 600V, 105C.

**Warranty**

**Lifetime Limited Unit 1000KCS**  
**1-Year Lamps 1000KCS and 1002KCS**  
**3-Year Ballast 1002KCS**  
**5-Year Ballast 1000KCS**

DEALER IMPRINT:

## **SECOND WIND AIR PURIFIER LIMITED WARRANTY APPLIES IN U.S.A. AND CANADA**

All Second Wind Air Purification 1000KCS systems have a limited lifetime, (5) year ballast and 1 year lamp warranty. Second Wind 1002KCS systems have a (3) year unit/ballast and 1 year lamp warranty.

### **ONE (1) YEAR COVERAGE LAMPS**

The 1000KCS and 1002KCS lamps are warranted by Second Wind for a period of one (1) year from the date of the original installation, when installed and operated in accordance with Second Wind recommendations. If during this period a lamp fails, Second Wind will provide a free replacement. You must pay shipping charges and all other costs of warranty service. Second Wind will not pay labor involved in diagnostic calls or in removing, servicing, or replacing parts.

### **BALLAST WARRANTY**

The 1000KCS ballast (pt# 1651C) is warranted for a period of five (5) years from the date of the original installation. The 1002KCS ballast (pt# 1053) is warranted by Second Wind for a period of three (3) years from the date of the original installation, when installed and operated in accordance with Second Wind recommendations. If during this period a ballast fails, Second Wind will provide a free replacement. You must pay shipping charges and all other costs of warranty service. Second Wind will not pay labor involved in diagnostic calls or in removing, servicing, or replacing parts.

### **UNIT COVERAGE**

The covered equipment and covered components are warranted by Second Wind for a period of (three (3) years-1002KCS) or (Lifetime -1000KCS) from the date of the original unit installation when installed and operated in accordance with Second Wind recommendations. If during this period a covered component fails, Second Wind will repair or replace the part. You must pay shipping charges and all other costs of warranty service. Second Wind will not pay labor involved in diagnostic calls or in removing, servicing, or replacing parts.

### **REPAIRS**

All repairs of covered components must be made with authorized service parts. Labor charges resulting from diagnostic calls or service are not covered by this warranty.

### **CARE OF EQUIPMENT**

Your new Second Wind Air Purifier must be properly installed, operated and maintained in accordance with the unit installation, operation, and maintenance instructions provided with each unit. Failure to provide maintenance per Second Wind instructions will void warranty.

