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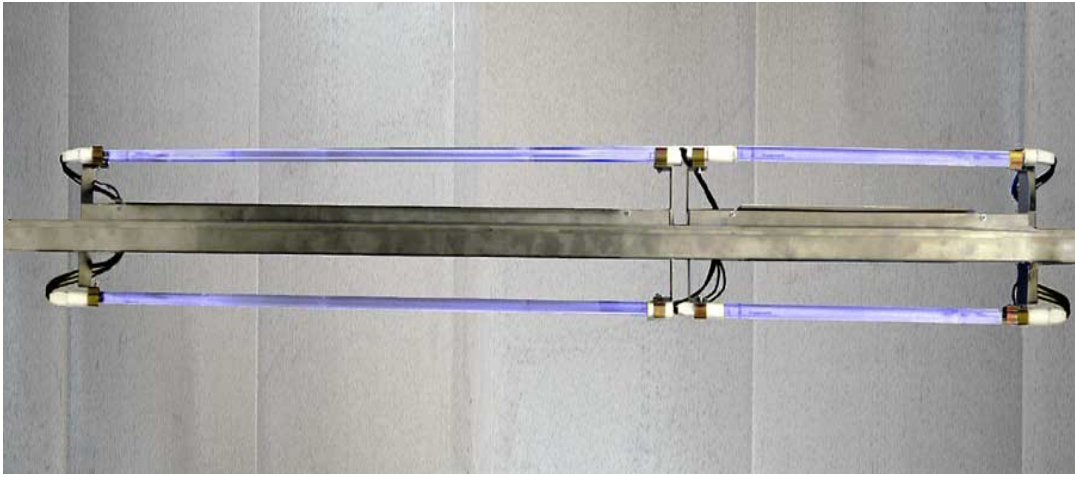
# GENERAL 5036DL Owner's Manual

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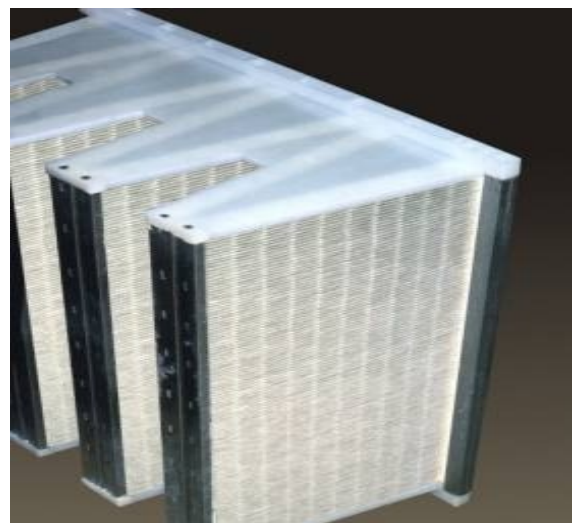
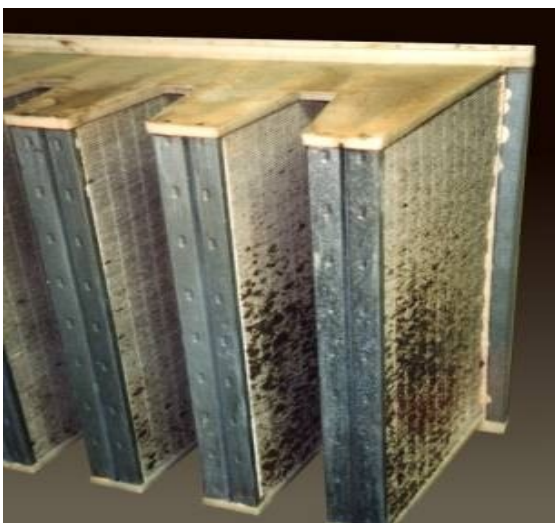
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----- Manual continues below -----



**Second  
Wind™**  
AIR PURIFIER

# 5000 Series Installation Manual



Revision: C

Issued 07/18/2019

# I. SAFETY INSTRUCTIONS

Please read the safety and installation instructions carefully to help ensure a correct and SAFE installation of your Second Wind Ultraviolet Germicidal Photo-catalytic Air Purifier.

## 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.
- 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 insulation, etc. If mounting options are limited, items above should be protected with ultraviolet resistant material such as aluminum foil, aluminum duct tape, or metallic shields

## INSTALLATION LOCATION:

1. See page 3 & 4 for possible installation locations.
2. Products shall be mounted only on to metal surfaces only.
3. Mounting shall be such that all surfaces in the duct or AHU where appliance forms parts of the duct shall be made of metal.
4. All wiring within adjacent heating and air conditioning equipment, shall be concealed from direct line-of-sight from the UV bulb. If that is not possible, the wiring protection must be UV-rated.

### SUITABLE FOR CONTINUOUS ROW MOUNTING

FOR SUPPLY CONNECTION, USE WIRES ACCEPTABLE FOR AT LEAST 105°C

## II. APPLICATION

The 5000 Series of Second Wind Ultraviolet Germicidal Photo-catalytic Air Purifiers are designed for the treatment of evaporator coils used in commercial and rooftop air handling units (AHU's) HVAC systems only. The lamps will decompose microorganisms growing on evaporator coils and drain pans and prevent further growth. The units are designed for continuous lamp operation. The commercial units are 120/277 VAC single and dual lamp units. See pages 15-16 for unit specifications. These units are not intended for use in location with non-metallic parts and no openings in the AHU.

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## III. INSTALLATION OF SINGLE LAMP MODELS

- The installation should be performed by a qualified HVAC contractor
- Read all safety instructions at the beginning of this manual. Failure to do so could lead to personal injury and/or equipment damage.
- In cases where fungi and/or bacteria are already present on the evaporator coil, it is recommended that an HVAC technician clean the coil before the installation of the UV lamp. Because the Second Wind Commercial Ultraviolet quickly degrades fungi and bacteria, there could be an initial period of temporarily increased levels of airborne decay products if the coil is not cleaned before installation.
- **Safety interlock switches for the access panel are recommended but not supplied.**
- Second Wind Support Channel may be used to support the unit (Part# 5000T, not supplied)
- **There can only be a maximum of ten (10) 36" units (5036SL & 5036DL) installed in parallel.**

### TOOLS

- Electric Drill with drill bits ( 3/32")
  - Saw to cut stainless track to fit
  - # 10 Nut Driver or socket set
  - Tape Measure
  - Alcohol Wipe ( In case lamps are touched)
- 
1. Determine a mounting location for the lamp. Use the criteria below to select a proper location:
    - The lamps are intended for evaporator coil treatment. The lamps install in a air handling system See CAUTION statements & Section II at beginning of manual for more guidance.
    - To protect the device, do not install below any source of water.
    - Install units so that the lamp assembly is at least 3 inches away from evaporator surface.
    - Install unit in a location that can be easily accessed
    - Be certain the area in the AHU or duct where you intend to drill and cut is free of any obstructions or components that would be damaged by the installation or interfere with the installation.
    - While keeping these guidelines in mind, the more direct exposure the coil and drain pan receive, the greater the benefit the lamps will have.
  2. Carefully inspect the HVAC system and make sure no damage will occur as a result of drilling the holes.
  3. Mounting holes are pre-punched in each unit making installation a screw-on procedure using the supplied #10 sheet metal screws. Different mounting hardware may be needed depending on installation.
  4. Place warning label (included) on the AHU near the installation location.
  5. With the cover of the commercial unit is still open access the ballast and wiring. Remove one of the electrical knockouts and send the wiring through the hole. Connect the electrical service, connect the black and white wires to power (depending on 120V thru 277V) and the green wire to ground. When wiring multiple units together 1/2 inch conduit nipples are provided to connect fixtures. **Refer to Section IX (Fig 8&9) and Section X.**
  6. If installing multiple units wire each row in parallel using #18 fixture wire (SOL TFN, 600V, 105C). Wire units through a properly rated DPDT access door interlock switch, to a suitable, protected and grounded power source, in accordance with applicable codes. **Refer to Section IX (Fig 13).**
  7. For finish wiring, use EMT or metal flex (when exposed to UVC) to protect wire insulation.
  8. All connections are to be readily visible for inspection when the cover is taken off.
  9. Attach the cover, then attach reflector plate.
  10. Install the lamps into the snap clip lamp holders. Use an alcohol wipe to remove any dirt or fingerprints from the lamp if accidental contact has occurred.
  11. Make sure the lamp connector is attached to the lamp. There is only one way to attach the connector to the lamp.
  12. Replace all covers and cutaways on the AHU. Turn on electrical service, unit is always energized.

## IV. INSTALLATION OF DUAL LAMP MODELS

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1. Follow Steps 1—3 from Section III before beginning this section.
  2. Chose a mounting location, using the duct mounting track holders and the installation track, install first row of units. Each row should be installed no more than 6 feet from each other vertically. Attach duct mounting track holders at appropriate measurement with #10 self tapping sheet metal screws or pre-drill pilot hole with 3/32" drill bit. Lay track in track holders and secure with screws. If length of track is beyond 6 feet, track connectors will have to be used, and Unistrut may be used to support track at connections every 3 feet .  
**Picture 1-4 page 6.**
- NOTE: Distances between units on the track will vary between 2 1/4 and 3 inches depending on the configuration.*
3. Place dual lamp unit in track. There are various rectangular cutouts in the track, depending on the length of the track install units in appropriate cut-outs. Remove cover of unit and secure unit to track through pre-punched holes. Add as many units as necessary to go the length of the track, attaching the units together by the 1/2 inch conduit nipples provided, and securing with #10 sheet metal screws through pre-punched holes in unit.  
**Picture's 5-9 page 6.**
  4. Place warning label (included) on the AHU near the installation location.
4. With the cover of the commercial unit is still open access the ballast and wiring. Send the wiring through the hole and 1/2 inch conduit. Connect the ballast in parallel, connect the black and white wires to power (depending on 120V or 277V) and the green wire to ground. When wiring multiple units together 1/2 inch conduit nipples are provided to connect fixtures. **Refer to Section IX Fig 8-9 and Section XI.**
  5. If installing multiple units wire each row in parallel using #18 fixture wire (SOL TFN, 600V, 105C). Wire units through a properly rated DPDT access door interlock switch, to a suitable, protected and grounded power source, in accordance with applicable codes. **Refer to Section IX, Fig 13.**
  6. For finish wiring, use EMT or metal flex (when exposed to UVC) to protect wire insulation.
  7. All connections are to be readily visible for inspection when the cover is taken off.
  8. Attach the covers, then attach reflector plates, with the screws and nuts provided. **Picture 10 on page 6.**
  9. Use the alcohol wipe to remove any dirt or fingerprints from the lamp.
  10. Make sure the lamp connector is attached to the lamp. There is only one way to attach the connector to the lamp. Snap the lamp into the lamp holders. **Picture#12 on page 6.**
  11. Replace all covers and cutaways on the AHU. Turn on electrical service, unit is always energized.

## V. ANNUAL LAMP REPLACEMENT

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The Second Wind Commercial Ultraviolet Germicidal Photo-catalytic Air Purifier is designed for the lamp to be on at all times. After 9000 hours of operation—1 year of continuous use— the effectiveness of the lamp inside the duct diminishes and should be replaced. Rarely will a lamp burn out in one year of continuous use; replacement is necessary because the lamp's intensity decreases. Installation of the replacement lamp is best handled by a qualified HVAC Service Contractor.

- The installation should be done by a qualified HVAC contractor.
- Disconnect electrical service
- Disconnect the lamp connector from the lamp base.
- Remove old lamp from the lamp holders (**Be careful old lamp may still be hot !**).
- Replace the old lamp with the new lamp, making sure the new lamp is clean. If the new lamp is dirty or has fingerprints on it remove with an alcohol wipe.
- Place lamp into lamp holders.
- Attach lamp connector to the lamp .
- Record the date lamp was replaced.

## VI. LAMP DISPOSAL

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As with a fluorescent light bulb, your UV lamp contains mercury and must be disposed of properly. **Do not throw old lamps into the trash.** Many communities have agencies that take in mercury along with other materials—such as old paint, solvents, etc.—that require special disposal. Please contact your municipal or county waste collection agency for proper disposal procedures.

If a lamp is broken, **do not use a vacuum cleaner to pick up the waste.** Instead, sweep up the waste into a plastic bag and seal. Contact your municipal or county waste collection agency for proper disposal procedures.

## VII. REPLACEMENT PARTS

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- 9 inch replacement lamp.....1068BR
- 18 inch replacement lamp.....1076R
- 36 inch replacement lamp.....1081-2R
- Ballast.....5000BR

## VIII. TROUBLESHOOTING

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If the lamps do not illuminate, check the following:

**Electrical Supply/Wiring**—Verify that the electrical service is operating correctly and all units are wired together properly.

**Fuse**—If the lamp is still not illuminated, turn off electrical supply and check the fuse. Look to see if FUSE is darkened or visibly blown; or check fuse continuity with multi-meter.

**Lamp**—Verify that the lamp is not broken and is properly seated in the lamp connector. To check this, follow steps in the Annual Lamp Replacement section with one exception : you should not remove and replace the lamp. If the lamp is broken read the “Lamp Disposal” section of this manual.

**Ballast**—If lamp still is not illuminating check the wiring to the ballast. If the ballast is wired properly and the lamp still does not illuminate, replace the ballast. With a fully electronic ballast there is no resistance testing.

# IX. PROGRESSIVE INSTALLATION PICTURES

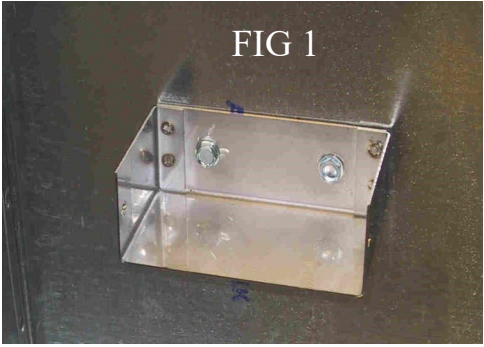


FIG 1

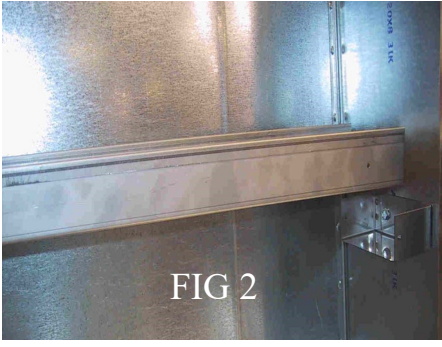


FIG 2

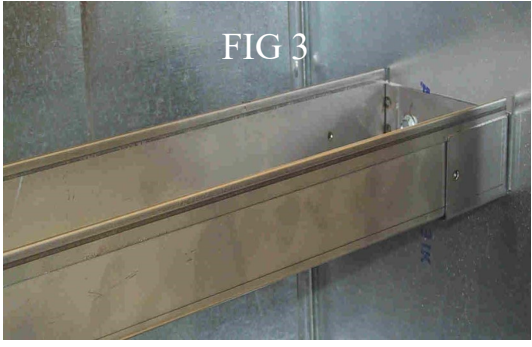


FIG 3

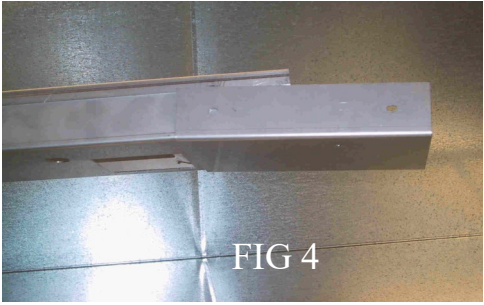


FIG 4

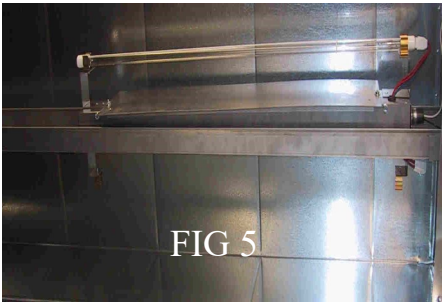


FIG 5

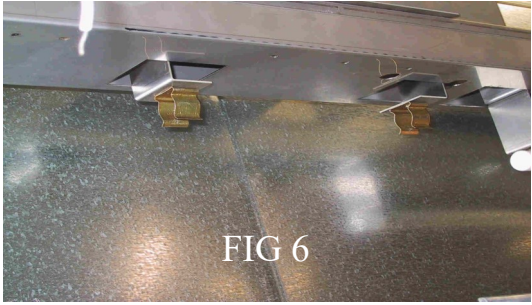


FIG 6



FIG 7

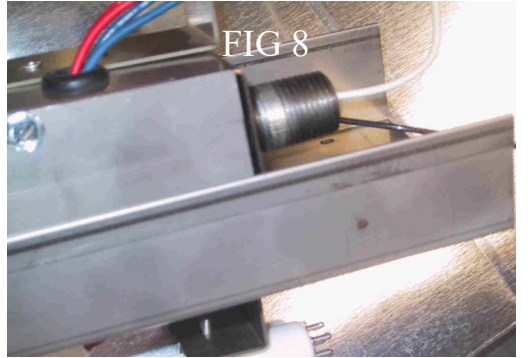


FIG 8

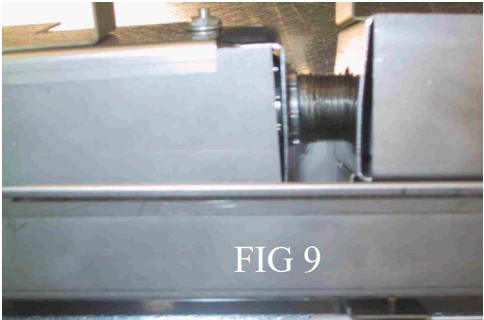


FIG 9

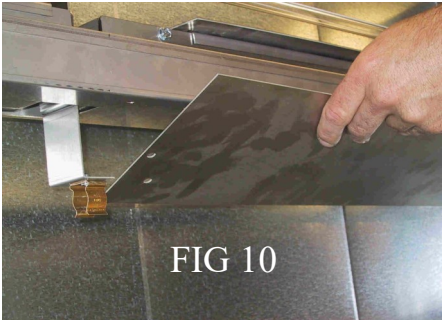


FIG 10

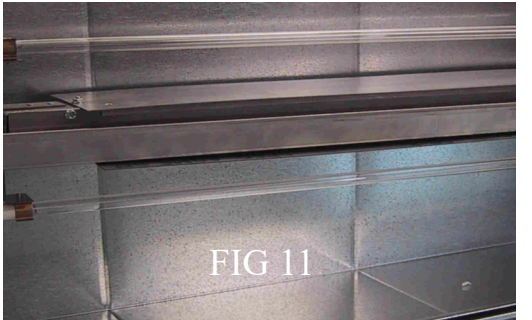


FIG 11



FIG 12

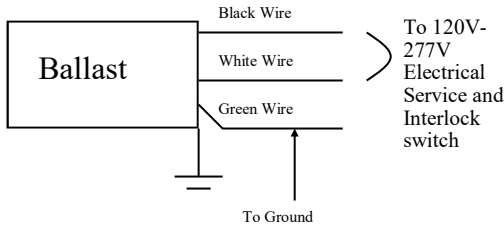
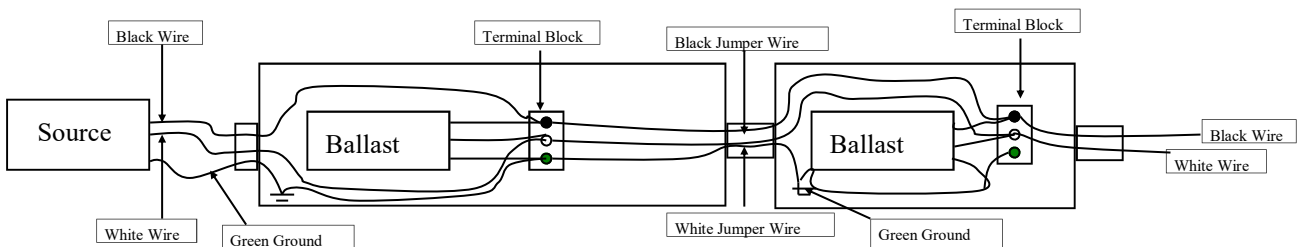


FIG 13

## **X. PROGRESSIVE WIRING PICTURES AND WIRING DIAGRAM**

**Wiring for 5036SL-5036SL, 5036SL-5018SL, 5036SL-5009SL, 5018SL-5009SL, or 5018DL-5009DL units together see Figure 14 below**

1. Feed green, white and black wires from the source into first DL or SL unit.
2. Ground green from the source to the internal stud. ( Initial unit must have source ground attached to the stud or ground to the mounting track.)
3. Make sure the green ground from each ballast is also attached to the internal grounding stud.
4. Take the black wire from the source, the black wire from ballast, and a black jumper wire ( minimum #18 solid wire 600 volt, 105 C.) long enough to reach into the next unit.
5. Using terminal block wire the 3 black wires together and feed the black jumper wire into the next SL or DL unit.
6. Take the white wire from the source, the white wire from ballast, and a white jumper wire ( minimum #18 solid wire 600 volt, 105 C.) long enough to reach into the next unit.
7. Using terminal block wire the 3 white wires together and feed the white jumper wire into the next SL or DL unit.
8. Using terminal block wire the 1 black ballast wire in the next unit to the black jumper wire from the previous unit .
9. Using terminal block wire the 1 white ballast wire in the next unit to the white jumper wire from the previous unit.
10. Make sure the 1 green ballast ground wire is attached the internal grounding stud.
11. All connections are to be readily visible for inspection when the cover is taken off.
12. Total rating for all combinations is 20 amps.

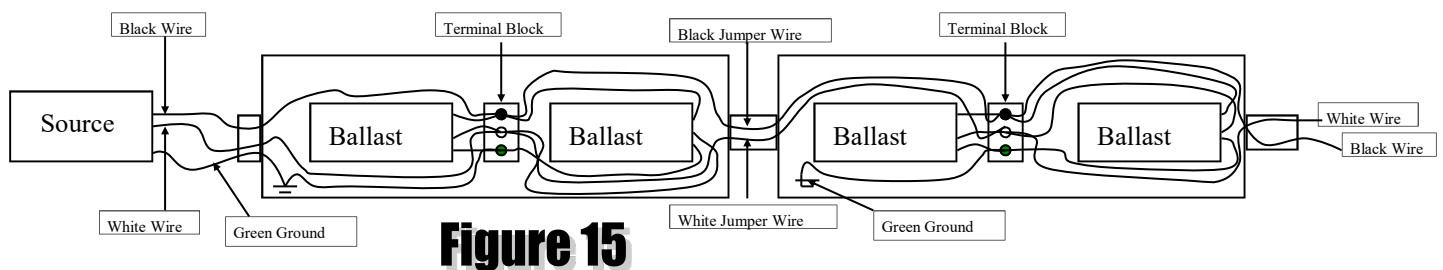


**Figure 14**

# XI. PROGRESSIVE WIRING PICTURES AND WIRING DIAGRAM

## Wiring for multiple 5036DL units together in a track : Figure 15

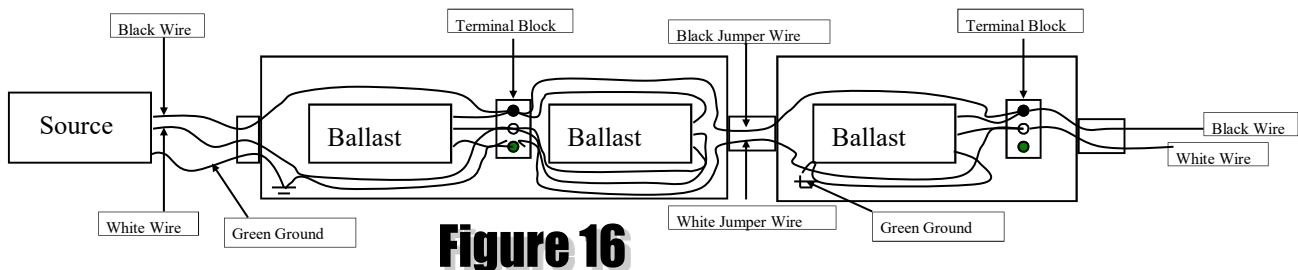
1. Feed green, white and black wires from the source into first 5036DL unit.
2. Ground green from the source to the internal stud. ( Initial unit must have source ground attached to the stud or ground to the mounting track.)
3. Make sure the green ground from each ballast is also attached to the internal grounding stud.
4. Take the black wire from the source, the black wires from each ballast, and a black jumper wire ( minimum #18 solid wire 600 volt, 105 C.) long enough to reach into the next unit and wire that unit.
5. Using terminal block wire the 4 black wires together and feed the black jumper wire into the second 5036DL unit.
6. Take the white wire from the source, the white wires from each ballast, and a white jumper wire ( minimum #18 solid wire 600 volt, 105 C.) long enough to reach into the next unit and wire that unit.
7. Using terminal block wire the 4 white wires together and feed the white jumper wire into the second 5036DL unit.
8. Using terminal block wire the 2 black ballast wires in the next unit to the black jumper wire from the previous unit.
9. Using terminal block wire the 2 white ballast wires in the next unit to the white jumper wire from the previous unit.
10. Make sure the 2 green ballast ground wires are attached the internal grounding stud.
11. Follow directions 4-10 to wire all subsequent 5036DL units.
12. All connections are to be readily visible for inspection when the cover is taken off.
13. Total rating for all combinations is 20 amps.



**Figure 15**

## Wiring for 5036DL unit to (5018DL or 5009DL) unit in a track : Figure 16

1. Feed green, white and black wires from the source into first 5036DL unit.
2. Ground green from the source to the internal stud. ( Initial unit must have source ground attached to the stud or ground to the mounting track.)
3. Make sure the green ground from each ballast is also attached to the internal grounding stud.
4. Take the black wire from the source, the black wires from each ballast, and a black jumper wire ( minimum #18 solid wire 600 volt, 105 C.) long enough to reach into the next unit and wire that unit.
5. Using terminal block wire the 4 black wires together and feed the black jumper wire into the second (5018DL or 5009DL) unit.
6. Take the white wire from the source, the white wires from each ballast, and a white jumper wire ( minimum #18 solid wire 600 volt, 105 C.) long enough to reach into the next unit and wire that unit.
7. Using terminal block wire the 4 white wires together and feed the white jumper wire into the second (5018DL or 5009DL) unit.
8. Using terminal block wire the 1 black ballast wire in the next unit to the black jumper wire from the previous unit.
9. Using terminal block wire the 1 white ballast wire in the next unit to the white jumper wire from the previous unit.
10. Make sure the 1 green ballast ground wire is attached the internal grounding stud.
11. All connections are to be readily visible for inspection when the cover is taken off.
12. Total rating for all combinations is 20 amps.



**Figure 16**

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

## ATTENTION INSTALLERS AND HOMEOWNERS

**YOUR SECOND WIND PRODUCT MUST BE REGISTERED TO QUALIFY FOR WARRANTY CLAIMS  
SEE CONTAINER OR CALL 1-866-476-5101 (IN USA) OR 1-888-216-9184 (IN CANADA) FOR ASSISTANCE**

### SECOND WIND AIR PURIFIER WARRANTY

The Second Wind 5000 Series product(s) that is attached to the facility Heating, Ventilation and Air Conditioning System (HVAC) has the following warranty, applicable in USA by General Filters Inc (GFI), and in Canada by Canadian General Filters Limited (CGF)

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

The lamps are warranted for a period of one (1) year from the date of the original installation, when installed and operated in accordance with GFI and CGF recommendations. If during this period a lamp fails, GFI & CGF will provide a free replacement.

#### **THREE (3) YEAR LIMITED WARRANTY**

GFI & CGF warrants this product, excluding lamps to be free from defects in the workmanship or materials, under normal use and service, for a period of three (3) years from the date of original installation, when installed and operated in accordance with GFI & CGF recommendations. If during this period a covered component fails, GFI & CGF will repair or replace the part.

#### **SHIPPING, REPAIRS AND ALL OTHER COSTS OF WARRANTY SERVICE**

End user must pay shipping charges and all other costs of warranty service. GFI & CGF will not pay labor involved in diagnostic calls or in removing, servicing, or replacing parts. 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 these instructions will void warranty.

### WARRANTY LIMITATIONS

This warranty will be voided if the covered equipment (only Second Wind replacement parts or units are warranted) is removed from the original installation site. This warranty does not cover damage or defect resulting from:

- 1 Accident, or neglect or unreasonable use or operation of the equipment, including operation of electrical equipment at voltages other than the range specified on the unit name plate.
- 2 Modification, change or alteration of the equipment, except as directed by GFI & CGF The furnishings of replacement parts under terms of this warranty will apply to the original warranty period and will not extend the warranty.

GFI & CGF makes no express warranties other than the warranty specified above. All implied warranties, including the implied warranty of merchantability and fitness for a particular purpose, are limited to the duration of the warranty specified above. Liability for incidental and consequential damages is excluded and is not covered by this warranty. Some States do not allow limitations on the duration of an implied warranty or the exclusion or limitation of incidental or consequential damages, so the limitations or exclusions may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

General Filters Inc & Canadian General Filters Ltd shall not be liable for any default or delay in performance under this warranty caused by any contingency beyond their control.

### WARRANTY PROCEDURE

All Second Wind Air Purification systems that are attached to your Heating, Ventilation and Air Conditioning System (HVAC) have a limited unit warranty. To receive warranty consideration, the following must be provided.

- 1 Be prepared to furnish the following information:
  - a- Complete model number and serial number
  - b- Proof of installation date if warranty claim is made by other than a qualified service dealer who maintains records of your installation date and service history.
  - c- An accurate description of the problem.
  - d- Date of failure.
- 2 Call the installing dealer that you purchased your Second Wind device from.
- 3 If the installing dealer is unable to provide warranty parts, contact:

General Filters Inc,  
43800 Grand River Ave  
Novi, MI 48375  
Phone: 1-866-476-5101  
Email: customerservice@generalfilters.com

CGF Products Ltd.  
400 Midwest Road  
Toronto, ON M1P3A9  
Phone: 1-888-216-9184  
Email: sales@cgfproducts.com