

## SAFETY INSTRUCTIONS

- a) This product complies with the maximum allowable concentration of ozone of 0.050 parts per million by volume (ppmv) in a 24-h period.
- b) The 8-hr TWA ozone for this product is 0.0 ppmv when tested in a 30 m<sup>3</sup> chamber.
- c) Intertek® Sustainability Verified Zero Ozone: This product meets UL 2998 and does not emit more than 0.005 ppm as tested per UL 867.
- d) CAUTION HIGH VOLTAGE: This equipment should be inspected frequently and collected dirt removed from it regularly to prevent excessive accumulation that may result in flashover or a risk of fire.

## CONSIGNES DE SÉCURITÉ

- a) Ce produit est conforme à la concentration maximale admissible d'ozone de 0,050 partie par million en volume (ppmv) sur une période de 24 heures.
- b) L'ozone TWA sur 8 heures pour ce produit est de 0,0 ppmv lorsqu'il est testé dans une chambre de 30 m<sup>3</sup>.
- c) Intertek® Sustainability Verified Zero Ozone : Ce produit est conforme à la norme UL 2998 et n'émet pas plus de 0,005 ppm selon les tests de la norme UL 867.
- d) ATTENTION HAUTE TENSION: Cet équipement doit être inspecté fréquemment et la saleté collectée doit en être retirée régulièrement pour éviter une accumulation excessive pouvant entraîner un embrasement ou un risque d'incendie.

## MAINTENANCE

The following maintenance procedure is recommended.

- a) Turn power off to FAU or packaged HVAC system or air purifier or ventilation fan.
- b) Open access panel on FAU or packaged HVAC system or cover of air purifier or fan.
- c) With access panel or cover open, use LED lamp to locate greenfan® bipolar ionizer on fan inlet and carefully clean carbon fiber electrode brushes with soft clean non-abrasive cloth, small brush, or toothbrush. **CAUTION: Carefully clean carbon fiber electrode brushes to avoid damaging brushes.** Inspect equipment frequently and remove collected dirt regularly to prevent excessive accumulation that may result in flashover or a risk of fire.
- d) Install MERV 10 (or better) electrostatically charged pleated air filters with activated carbon to remove dust, pollen, dust mites, pet dander, smoke, Volatile Organic Compounds (VOCs), and other airborne particles.
- e) Remove tools and close access panel on FAU or packaged HVAC system or cover of air purifier or ventilation fan.
- f) Turn on power to the FAU or packaged HVAC system or air purifier or fan.

## WARRANTY

GREENFAN® hereby warrants to the consumer that the product purchased under this warranty be free from defects in material and workmanship under normal use when installed, operated, and maintained in accordance with manufacturer's instructions. In the event of a product defect, failure, or malfunction, GREENFAN® will, for a period of five (5) years from the date of purchase, repair or replace at its discretion the defective, failed, or malfunctioning product purchased under this Warranty. Installation and/or removal labor is not covered under this Warranty.

Warranty, return, or repair requests must be processed at [www.greenfan.co/contact](http://www.greenfan.co/contact). The following information is required for processing a warranty, return, or repair request: 1) purchases made and received within the USA; 2) product registration or proof of purchase may be required; 3) excludes filters and parts intended for regular replacement; 4) normal recommended use at the recommended input voltages on the product label or installation manual. Warranty, return, or repair requests are not provided for products that are damaged due to incorrect installation, physical abuse, chemical exposure, water damage, fire damage, or input voltage outside the recommended input voltage on the product label or instruction manual, or service of product by anyone other than GREENFAN® technicians or authorized dealers. Products covered by the warranty, return or repair may be replaced with new or refurbished units of the same or similar model. Liability for damages to you for any costs whatsoever arising out of this statement of warranty shall be limited to the amount paid for this product at the time of original purchase, and GREENFAN® shall not be liable for any direct, indirect, consequential, or incidental damages arising out of the use or inability to use the product. An RMA# is required for warranty, return, or repair requests. Returned packages that do not have an RMA# will be refused. For warranty information please contact: [support@greenfan.co](mailto:support@greenfan.co) or call 1-877-777-6756. Other than as herein expressly set forth, there are no warranties, expressed or implied, including, without limitation, the warranties of merchantability and fitness for a particular purpose, any such warranties otherwise imposed by the law being hereby expressly disclaimed. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply. GREENFAN® is not and shall under no circumstances be liable or responsible for any special, incidental, or consequential damages, losses, or expenses arising from a claimed or actual defect in any of the products purchased under this warranty or the installation or use thereof or from any other cause whatsoever, including, but not limited to, loss of profits, loss of business, loss of revenues, and other economic loss. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply.

# greenfan® bipolar ionizer

## Model 1600-01

## Installation, Operation, and Maintenance Instructions

US Pat. 11173226, 11563310,  
12038204, and pending patents

Intertek® Verified  
Zero Ozone  
Meets UL 2998  
Certified to  
CSA C22.2 #187  
Conforms to UL 867



Intertek  
5022314



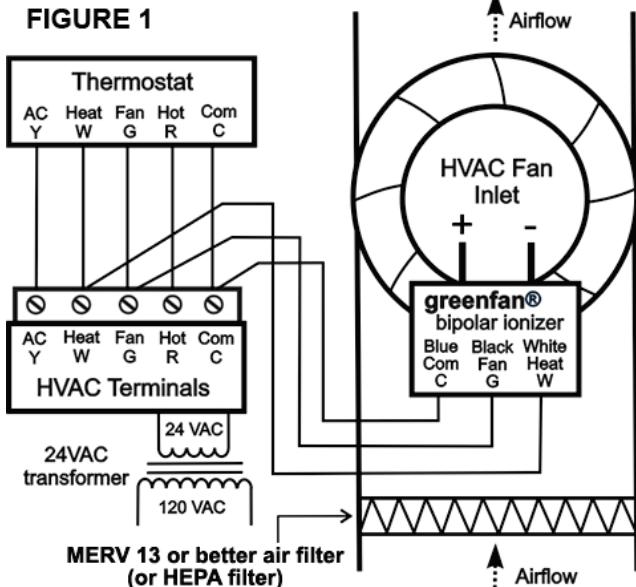
## INTRODUCTION

The greenfan® bipolar ionizer unit produces positive and negative ions to remove or neutralize odors and pathogens. The unit has been lab-tested by Innovative Bioanalysis to reduce an initial SARS-CoV-2 aerosol virus concentration by 97.6% in 60 minutes when installed on a blower fan circulating air in a 1280 ft<sup>3</sup> chamber. Actual results may vary. The unit can be installed in a Heating, Ventilating, Air Conditioning (HVAC) system, air purifier, or ventilation fan. American Society of Heating, Refrigerating, and Air-conditioning Engineers recommends MERV 13 air filters or HEPA filters to remove airborne viral particles.

## MECHANICAL INSTRUCTIONS

- WARNING: Do not connect unit to power before mechanical and electrical installation are complete.
- Mount unit to allow access for general maintenance.
- Install greenfan® bipolar ionizer unit with two self-tapping screws (1/4" drive x 3/4" long) attached through holes in flanges on either side of unit with at least one inch clearance between carbon fiber electrodes and metal surfaces to ensure airflow over both electrodes.
- For HVAC system, install unit behind panel on fan inlet downstream of air filter to reduce dust build-up on carbon fiber electrode brushes. For low clearance applications, locate rare-earth magnets with edges touching (e.g., OO), peal tape backing off magnets, and attach to back of unit. Be careful when installing screws to not break flanges.
- For air purifier, install unit behind cover downstream of air filter to reduce dust build-up and allow airflow to pass over carbon fiber electrode brushes.
- For ventilation fan, install unit behind protective grill on a 22 gauge sheet metal support (supplied by installer) attached to a vertical bracket holding fan motor.

FIGURE 1



## ELECTRICAL INSTRUCTIONS

- WARNING: Do not connect power to unit before installation is complete. Always disconnect power to unit before handling. All wiring must be in accordance with National Electrical Code (NEC) or National Fire Protection Association (NFPA) 70E-2021 and Authorities Having Jurisdiction (AHJ).
- The greenfan® bipolar ionizer must be installed inside the HVAC equipment, air purifier, or fan. L'ioniseur bipolaire greenfan® doit être installé à l'intérieur de l'équipement CVC, du purificateur d'air ou du ventilateur.
- This air cleaner shall not be installed on the hot-air side of duct-type systems. Ce filtre à air ne doit pas être installé du côté air chaud des systèmes de type conduit.

### HVAC SYSTEM ELECTRICAL INSTRUCTIONS

- Use multimeter to determine if 24VAC control signal wires are available. If yes go to step b. If no, go to step c.
- For 24VAC HVAC systems, refer to FIG. 1. Loosen screws, insert wires (as shown), and tighten screws with all wires in place. Connect greenfan® bipolar ionizer blue wire to C terminal or to common wire of HVAC system. Connect black wire to fan G terminal or fan G wire of HVAC system. Connect white wire to heat W terminal or heat W wire of HVAC system. Skip to step d.
- For HVAC systems without accessible 24VAC control signal wires, install 120/208/240V to 24VAC Class 2 UL-listed transformer Model 1601-01 shown in FIG. 2. Connect 120/208/240V common wire of transformer to 120/208/240V common wire of HVAC system and connect greenfan® bipolar ionizer blue wire to one of the 24VAC wires from transformer shown in FIG. 2. Connect greenfan® bipolar ionizer black wire to other 24VAC wire from transformer and connect appropriate wire from 120/208/240V transformer to 120/208/240V hot wire of fan. Install wire nut to insulate unused white wire of ionizer shown in FIG 2. For 240VAC without neutral, connect one leg of 240VAC to common input and other leg to 240VAC input. Transformer wire color may vary.
- After completing all steps, temporarily close safety switch on access panel door, jumper fan to turn on fan, and verify LED lamp is illuminated on unit.

### AIR PURIFIER ELECTRICAL INSTRUCTIONS

- Air purifier electrical installation requires UL-listed 120/24VAC transformer Model 1602-01 (scan QR code for more information) Use multimeter to locate 120VAC wire to fan motor and use in-line splices to connect 120/24VAC transformer wire to 120VAC fan motor wire and 120/24VAC transformer common wire to 120VAC neutral wire.
- Connect greenfan® bipolar ionizer blue wire to one wire of 24VAC transformer and connect greenfan® bipolar ionizer black wire to other wire of 24VAC transformer.
- Install wire nut to insulate unused white wire of ionizer.
- After completing all steps, turn on power to air purifier fan and verify green LED lamp is illuminated on unit.

## VENTILATION FAN ELECTRICAL INSTRUCTIONS

- Ventilation fan electrical installation requires UL-listed 120/24VAC transformer Model 1602-01 (please scan QR code). Use multimeter to locate 120VAC wire to fan motor and use in-line splices to connect 120/24VAC transformer wire to 120VAC fan motor wire and 120/24VAC transformer common to 120VAC neutral wire.
- Connect greenfan® bipolar ionizer blue wire to one wire of 24VAC transformer and connect greenfan® bipolar ionizer black wire to other wire of 24VAC transformer.
- Install wire nut to insulate unused white wire of ionizer.
- After completing all steps, verify proper operation by applying power to unit and confirming green LED lamp is illuminated on greenfan® bipolar ionizer.

## TROUBLESHOOTING

- The greenfan® bipolar ionizer continuously monitors electrodes to maintain consistent high-voltage and balanced bipolar ion concentrations .
- If LED lamp does not illuminate when HVAC fan, air purifier, or ventilation fan is ON, then check: 1) power supply or transformer is connected and operating properly; 2) bipolar ionizer is properly connected to power supply or transformer; 3) verify all wire and wire nut connections are correct and tight; and 4) reconnect any loose wires and verify operation as described above.
- If LED lamp is flashing when thermostat fan, air purifier, or fan is ON, then check: 1) power supply voltage input is within 20 to 30VAC; and 2) electrical shorts on the positive-ion electrode or the negative-ion electrode.
- If above steps do not correct flashing or non-illuminated LED lamps, then call 877-777-6756 or contact technical support at: [www.greenfan.co/support](http://www.greenfan.co/support).

FIGURE 2

