

Grafco®

MODEL 2211 / 2212 / 2213 / 2214 E-SERIES ULTRAVIOLET HAND-HELD LAMP



**Model 2211
E-Series Hand-Held
Ultraviolet Lamp**



**Model 2213
E-Series Hand-Held
Ultraviolet Lamp**

OPERATION MANUAL

Info: The most current version of this manual can be found online at www.grahamfield.com.

⚠ WARNING: Important! Read and understand these instructions before using the 2211 / 2212 / 2213 / 2214 E-Series Ultraviolet Hand-Held Lamp. If you do not understand any part of these instructions, contact a healthcare professional for direction in the use of this product. If the lamp is not properly installed and operated, personal injury and / or damage to the lamp could result.

PLEASE SAVE THIS MANUAL FOR FUTURE USE.



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INTRODUCTION

This operation manual contains important information and safety precautions for the Graeco 2211 / 2212 / 2213 / 2214 E-Series Ultraviolet Hand-Held Lamp. Before using the lamp, please read and understand this entire user manual. Take special note of all safety precautions marked DANGER and WARNING. Save this operation manual for future reference.

Intended Use

The Graeco 2211 / 2212 / 2213 / 2214 E-Series Ultraviolet Hand-Held Lamp is intended to provide optimum ultraviolet irradiance for bright fluorescent response in an indoor laboratory.

IMPORTANT SAFETY PRECAUTIONS

- ⚠ IMPORTANT:** Before using the lamp, please read and adhere to the following safety precautions and warnings. Failure to do so could result in serious personal injury or damage to the lamp. If you experience any malfunction, contact your GF authorized distributor immediately, as a hazardous condition could result, causing personal injury or damage to the lamp. Maintenance **MUST** be performed by qualified personnel **ONLY**.

Significance of safety statements

Please note the following special statements, used throughout this manual, and their significance:

- ⚠ DANGER:** Indicates a potential hazard situation or unsafe practice that, if not avoided, will result in death or serious personal injury.
- ⚠ WARNING:** Indicates a potential hazard situation or unsafe practice that, if not avoided, could result in death or serious personal injury.
- ⚠ CAUTION:** Indicates a potential hazard situation or unsafe practice that, if not avoided, could result in minor or moderate personal injury.
- ▲ NOTICE:** Indicates a potential hazard situation or unsafe practice that, if not avoided, could result in product or property damage.

Info: Provides application recommendations or other useful information to ensure that you get the most from your product.

- ⚠ DANGER:** Ultraviolet radiation is emitted from this product. Avoid exposure. **ALWAYS WEAR PROTECTIVE CLOTHING. EXPOSURE MAY CAUSE PREMATURE AGING OF THE SKIN AND CANCER. ALWAYS WEAR PROTECTIVE EYEWEAR; FAILURE TO DO SO MAY RESULT IN SEVERE BURNS OR LONG TERM INJURY TO EYE.** Never look directly into the lamp. Exposure can cause eye and skin allergy and allergic reactions. Medications or cosmetics may increase your sensitivity to ultraviolet radiation. Consult physician before operating this product if you are using medications or have a history of skin problems or believe yourself especially sensitive to sunlight. **FOR LABORATORY USE ONLY.**

⚠ **WARNING: If components are damaged or missing, contact your dealer immediately. DO NOT use substitute parts. Use only Grafco replacement parts. Non-Grafco replacement parts could cause personal injury and / or damage to the lamp.**

⚠ **WARNING: GF Health Products, Inc. assumes no responsibility for any damage or injury caused by improper installation or use of this product.**

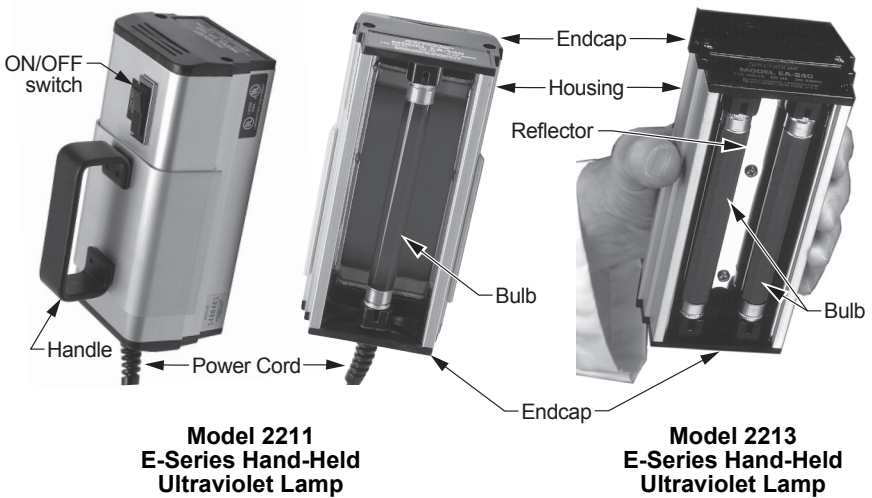
UNPACKING AND INSPECTION

Your device will include the following components:

- Lamp Unit
 - Operation Manual
 - 2211: One 4-Watt Integrally Filtered UV-A Tube (2223A)
 - 2212: One 6-Watt Integrally Filtered UV-A Tube (2223E)
 - 2213: Two 4-Watt Integrally Filtered UV-A Tubes (2223A)
 - 2214: One 4-Watt Integrally Filtered UV-A Tube (2223A)
1. Carefully unpack and inspect the lamp for possible damage in shipment. If any damage is noted, immediately notify the carrier and supplier before attempting to use the lamp.
 2. Save the shipping carton and packing materials for future storing and shipping of the lamp.
 3. Check the lamp's electrical performance as soon as possible according to the following **General Function Checks**.

OPERATION INSTRUCTIONS

Please refer to illustration below.



General Functional Checks (Perform Before Use)

1. Connect the plug to a power outlet that complies with the electrical requirements specified on the lamp's label.
2. Press and hold the dimple on the ON/OFF switch for approximately five seconds to power the tube(s).
3. The tube(s) should become energized and emit a steady glow of light. The light may initially flicker, especially if the lamp is cold, but should stabilize after a few seconds.
4. To turn the lamp off, press down on the opposite side of the switch or disconnect from power.

Operator Maintenance

The following maintenance instructions are intended for **limited** maintenance of the lamp. Do not perform any maintenance other than that contained in these instructions. Return the lamp to your GF authorized distributor for other maintenance not covered in this section.

MAINTENANCE

- ⚠ **WARNING:** To avoid the risk of electrical shock, always unplug the lamp from its power source before performing maintenance or cleaning.
- ▲ **NOTICE:** DO NOT use abrasive cleansers on any part of lamp. DO NOT immerse lamp in any liquid. DO NOT allow any liquids to leak into electrical components.

Housing and Filter Cleaning

The aluminum lamp housing protects the internal parts. Immediately clean spills from the housing with water and a mild detergent and wipe dry with a clean, soft cloth. Clean the filter (Model 2214 *only*) as needed with glass cleaner and a clean, soft cloth.

Tube and Reflector Cleaning

Clean the tubes as needed with a mild detergent solution. Wipe dry with a clean, soft cloth. Clean the reflector as needed with glass cleaner and a clean, soft cloth.

Tube Replacement

Info: Replacement tubes are available at www.grahamfield.com.

Replacement Tube Part Number	Description	Product
2223A	Tube, UV-A, 4 Watt	2211, 2213, 2214
2223E	Tube, UV-A, 6 Watt	2212

If a tube fails to operate correctly, review the procedures outlined in the OPERATION section. If the problem persists and it is necessary to replace a tube, unplug the lamp from its power source before proceeding.

1. Lay the lamp housing on a flat, level surface.
2. Remove the two screws that secure the endcap opposite the power cord.
3. **Model 2214 only:** Slide the filter assembly from the lamp housing's open end and set aside.
4. Grasp the tube by the metal bases located at each end. Applying even pressure, gently rotate the tube a quarter turn until it loosens. The tube may now be easily removed from its sockets.
5. Install the new tube by reversing the above procedure.
6. **Model 2214 only:** Slide the filter assembly into the lamp housing's open end as previously positioned.
7. Reinstall the two screws that secure the endcap opposite the power cord.
8. Test the function of the new tube. If installation of the new tube fails to yield correct lamp operation, check to ensure the two pins at each end of the tube are properly connected with the two copper contacts in each socket.

Info: The Model 2213 lamp tubes are wired in series. Therefore, if one tube fails, the other tube will not illuminate, even though it may be in good operating condition.

Filter Replacement (Model 2214 only)

1. Lay the lamp housing on a flat, level surface.
2. Remove the two screws that secure the endcap opposite the power cord and remove the endcap.
3. Slide the old filter assembly from the lamp housing's open end and set aside.
4. Slide the new filter assembly into the lamp housing's open end in the same position.
5. Replace the endcap in the same position.
6. Reinstall the two screws that secure the endcap.

SPECIFICATIONS

Model	Tube(s)	Dimensions	Product Weight
2211	One 4-Watt integrally filtered UV-A tube	3.25" x 7" x 2.5" (8.3 x 17.8 x 6.4 cm)	1.75 lb (0.8 kg)
2212	One 6-Watt integrally filtered UV-A tube	3.25" x 10.25" x 2.5" (8.3 x 26.0 x 6.4 cm)	2.0 lb (0.9 kg)
2213	Two 4-Watt integrally filtered UV-A tubes	3.25" x 7" x 2.5" (8.3 x 17.8 x 6.4 cm)	1.75 lb (0.8 kg)
2214	One 4-Watt integrally filtered UV-A assembly	3.25" x 8" x 2.5" (8.3 x 20.3 x 6.4 cm)	2.0 lb (0.9 kg)

- Housing: anodized aluminum
- UL listed
- CSA approved
- ISO 9001:2008 certified

Environmental Specifications

Graeco E-Series lamps are designed to be used under the following conditions:

- Indoor use
- Altitude up to 2,000 m (6,562 ft.)
- Temperature 5°C to 40°C (41°F to 104°F)
- Maximum relative humidity 80% for temperatures up to 31°C (88°F), decreasing linearly to 50% relative humidity at 40°C (104°F)
- Mains supply voltage fluctuations not to exceed ±10% of the nominal voltage
- Installation category II
- Pollution degree 2

Electrical Specifications

- All models are 120V / 60Hz, 0.2amps, and wavelength UV-A
- UV-A tubes are integrally filtered
- Long Wave (UV-A): 365nm

Disposal

⚠ **WARNING:**  **LAMP / TUBES CONTAIN MERCURY.**
 Manage in Accordance with Disposal Laws.
 See: www.lamprecycle.org.

LIMITED WARRANTY

SCOPE OF WARRANTY

GF Health Products, Inc. ("GF") warrants to the original purchaser only that it will replace or repair components, at GF's sole discretion, that are defective in material or workmanship under normal use and service. All warranties are conditioned upon the proper use of the products strictly in accordance with good commercial practice and applicable GF instructions and manuals, including proper use and maintenance. To the extent that a component is warranted by a third party, GF conveys all of its rights under that warranty to the original purchaser, to the extent permitted. This limited warranty shall only apply to defects that are reported to GF's customer service team within the applicable warranty period and which, upon examination by GF or its authorized representative, prove to be a warranty item. This limited warranty is not transferable. Within the guidelines set forth in this document, this product is warranted for one (1) year. The applicable warranty period shall commence from date of shipment to the original customer, unless there is an expiration date on the component in which case the warranty shall expire on the earlier of warranty period or the expiration date.

OBTAINING WARRANTY SERVICE

This limited warranty shall only apply to defects that are reported to the Distributor from whom the Customer purchased the product within the applicable warranty period. If there is not a Distributor, you must contact GF directly by calling 770-368-4700, sending a fax request to 770-368-2386, or by e-mailing a request to cs@grahamfield.com. Specific directions will be provided by the Customer Service Representative. Failure to abide by the specific directions will result in denial of the warranty claim.

EXCLUSIONS

The warranty does not cover and GF shall not be liable for the following:

- 1) Defects, damage, or other conditions caused, in whole or in part, by misuse, abuse, negligence, alteration, accident, freight damage, tampering or failure to seek and obtain repair or replacement in a timely manner;
- 2) Products which are not installed, used, or properly cleaned and maintained as required in the official manual for the applicable product;
- 3) Products considered to be of a non-durable nature including, but not limited to: casters, filters, fuses, gaskets, lubricants, and charts;
- 4) Accessories or parts not provided by GF;
- 5) Charges by anyone for adjustments, repairs, replacement parts, installation or other work performed upon or in connection with such products which are not expressly authorized in writing, in advance, by GF;
- 6) Any labor or shipping charges incurred in the replacement part installation or repair;
- 7) Costs and expenses of regular maintenance and cleaning; and
- 8) Representations and warranties made by any person or entity other than GF.

ENTIRE WARRANTY, EXCLUSIVE REMEDY AND CONSEQUENTIAL DAMAGES DISCLAIMER

THIS WARRANTY IS GF'S ONLY WARRANTY AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. GF MAKES NO IMPLIED WARRANTIES OF ANY KIND INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IF ANY MODEL OR SAMPLE WAS SHOWN TO THE CUSTOMER, SUCH MODEL OR SAMPLE WAS USED MERELY TO ILLUSTRATE THE GENERAL TYPE AND QUALITY OF THE PRODUCT AND NOT TO REPRESENT THAT THE PRODUCT WOULD NECESSARILY CONFORM TO THE MODEL OR SAMPLE IN ALL RESPECTS. THIS WARRANTY IS LIMITED TO THE REPAIR OR REPLACEMENT OF THE DEFECTIVE PARTS. GF SHALL NOT BE LIABLE FOR AND HEREBY DISCLAIMS ANY DIRECT, SPECIAL, INDIRECT, INCIDENTAL, EXEMPLARY OR CONSEQUENTIAL DAMAGES, INCLUDING, BUT NOT LIMITED TO: DAMAGES FOR LOSS OF PROFITS OR INCOME, LOSS OF USE, DOWNTIME, COVER, OR EMPLOYEE OR INDEPENDENT CONTRACTOR WAGES, PAYMENTS AND BENEFITS.

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For additional information on this product or this warranty, please contact a GF Customer Service Representative.

NOTES:

- 1) Additional terms and conditions may apply.
- 2) Freight claims must be notated on the appropriate shipping documents and must be made with immediacy. International, federal and state regulations govern specific requirements for freight claims. Failure to abide by those regulations may result in a denial of the freight claim. GF will assist you in filing the freight claim.
- 3) Claims for any short shipment must be made within thirty (30) days of the invoice date.

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Made in USA (except bulbs)