



Installation and Operation Instructions



Steril-Home 120V or 230V

Patents 5,334,347, 5,817,276, 5,866,076, 6,245,293, 6,267,924, 6,280,686, 6,313,470, 6,372,186, 6,423,882, 6,500,267, 6,589,476, 6,627,000 & others pending

NOTE: Read this entire instruction sheet before starting the installation.

IMPORTANT CONSIDERATIONS

The qualified installer must use factory kits or accessories when installing this product. Refer to the individual instructions packaged with kits or accessories when installing them.

Follow all safety codes and any warnings or cautions attached to any accessed area. Consult local building codes and the National Electrical Code (NEC) for special requirements.

Improper installation, adjustment, alteration, service, maintenance, or use can cause fire, electrical shock, or other conditions which may cause personal injury or property damage. Consult a qualified installer, service agency, or your supplier for information or assistance. In regard to the statements below, understand the signal words **WARNING** or **CAUTION**. These words are universally used for overall safety. **WARNING** signifies hazards, which could result in personal injury or death. **CAUTION** is used to identify unsafe practices, which would result in minor personal injury or product and property damage.

WARNING:

- Before installing fixture or performing maintenance or service on fixture, turn off main power switch to unit. Electrical shock can cause injury or death. There may be more than one disconnect switch.

CAUTIONS:

- Turn all power off. Never expose eyes or skin to UVC light from any source, as personal injury may result. Wear gloves, face shield/glasses (per ANSI Z87.1) and cover all exposed skin.

- After installation, provide an interlock to turn off germicidal Emitters (lamps) when access door is opened. Emitter must be off before entering HVAC unit to perform maintenance or service.
- Do not touch Emitter glass without gloves. Damage to Emitter may result. Oil from fingerprints will permanently etch glass of Emitter and weaken structure. If necessary, clean Emitter using Steril-Aire's cleaning kit (isopropyl alcohol and a lint-free wipe may be substituted).
- Use only genuine Steril-Aire UVC Emitters with this fixture. This ensures warranty coverage, maintains peak UVC output levels, and guarantees proper fit. Use of lower wattage or incorrect Lamp can result in damage to accessory or lamp. Genuine UVC Emitters will always display the Steril-Aire patent numbers and Steril-Aire logo.
- Voltages outside of the operating range of the unit will void the warranty and do permanent damage to the entire unit.
- Emitter contains a small quantity of mercury. If an Emitter breaks, clean and dispose of with care.
- UVC energy may cause damage to non-metallic components except for UV-rated and HVAC-style drain pans. Select mounting locations that prevent exposure to vulnerable components. If mounting locations are limited, non-UV resistant components shall be protected with UV resistant material such as aluminum foil, aluminum duct tape, metallic shields, etc.

KIT CONTENTS

Single Kit

- 1 – Emitter with power supply assembly
- 1 – Outer housing & power cord
- 1 – Mounting Kit: 4 – 8x½ " screws
- 1 – Cleaning Kit: gloves, 2 wipes
- 1 – Caution Flyer
- 1 – Change Date Label
- 1 – Installation Manual

Dual Kit

- 2 – Emitter and power supply assembly
- 1 – Set of outer housing with bellows & power cord
- 1 – Mounting Kit: 10 - 8x½ " screws
- 1 – Cleaning Kit: gloves, 2 wipes
- 1 – Caution Flyer
- 1 – Change Date Label
- 1 – Installation Manual
- 1 – Bellows Positioning Bracket

INSTALLATION OVERVIEW

- Emitters may be installed anywhere to bathe an air stream or surfaces with germicidal UVC energy. It is best that they be located at known growth areas such as downstream of the cooling coil and over the drain pan. (See Illustrations, Figure 2 & 3) They may also be placed in a return air duct, supply duct, mixed air plenum, point of delivery or any combination thereof to suit the application. Make sure that the duct or plenum depth is at least of enough depth to accommodate the UVC Emitter.
- When choosing the site, make sure that the fixture can be supplied with the necessary power requirements, that it has suitable physical access for service, and that it be mounted onto a metal air duct.
- Consult all applicable codes before installing. Check fixture label(s) for the correct power requirements and supply the correct voltage from a suitable, protected (fused), and grounded power source.
- Air Handler access panels or doors are to be interlocked with the power source to turn Emitter(s) off when the System is opened. It should have signs provided in appropriate languages alerting maintenance personnel to the possible hazard of looking at or exposing skin to the UVC energy. Service accesses may be equipped with a glass or Lexan® window to view Emitters. A view port made of ABS or polycarbonate material may also be installed to view Emitters. UVC energy does not penetrate any of the aforementioned materials.
- Reflecting UVC energy is recommended as it enhances irradiance. Lining the UVC cavity with aluminum allows photons to bounce, reducing possible shadow areas and thus increasing efficacy.
- Once the installation is complete, fixtures should be operated continuously to preclude the development of mold and bacteria. It is not recommended to cycle the Emitters by time clock or fan operation.

INSTALLATION & OPERATION

1. The outer base housing should position the UVC Emitter about two inches from the vertical sidewall and two to three inches from the face of the coil and at a vertical location slightly above the mid-point of the coil height (see Illustrations, Figure 2).

 **CAUTION:** Do not drill into coil, refrigerant lines, or other mechanical equipment.

2. Using the outer base housing as a template, scribe and then drill a 17/16" (36 mm) diameter hole on the mounting surface for the Emitters. Center the outer base housing on the 17/16" (36 mm) hole and using four #8 x ½ " (4 mm x 12 mm) self-tapping panhead type screws, attach the base to the unit. The rubber gasket material attached to the outer base housing

will seal the base to the unit making an airtight connection.

3. When installing the dual kit, the bellows positioning bracket should be used to position the bellows so that it will not touch the furnace exhaust vent.

 **CAUTION:** Install the UVC lamp before applying power.

4. Insert the Emitter and Power Supply Assembly into the outer base housing without touching the glass with bare hands. If necessary, clean the glass using the cleaning kit gloves and wipes (99% isopropyl alcohol and a lint free wipe may be substituted). Make sure the "O" ring is pushed onto the white ceramic base of the Emitter. Carefully push the Emitter Assembly through the outer base housing

into the plenum until seated. Do not force. Install

the outer base cover(s). Check all circuits and connect electrical power supply. A "blue hue" will glow from each lamp indicating that each fixture is working.

⚠ CAUTION: View only with all skin covered and use a chemical / UVC resistant full-face mask.

5. Affix the included "CAUTION LABEL" and "CHANGE DATE LABEL" in plain sight to the HVAC unit. Protect labels against poor conditions if necessary and replace when worn.
6. It is recommended that the UVC Emitters **operate all the time**.

7. The illumination ring around the logo will be blue for the first 7000 hours (approximately 10 months) of operation and then turns yellow from 7000 to 9000 hours. The UVC Replacement Emitter and Power Supply Kit should be installed at 9000 hours (approximately 12 months) when the indication light turns red. **NOTE: The illumination ring should be carefully explained to the homeowner.**
8. UVC Emitters must be changed annually or sooner to maintain design output. The change out basis depends on the application, number of times switched per day and/or hours of operation. On/off cycles reduce the life of the Emitter. Replace Emitters when 9000 hours of operation are reached as indicated by the **red ring** around the logo.

TROUBLESHOOTING

Symptom	Recommended Action (In order of priority)
Emitter™ Does Not Light	<ol style="list-style-type: none"> 1. Turn off power for 10 seconds and then turn power back on. 2. Replace Emitter with new unit. Recommended once per year. 3. Check line voltage. 4. Check wiring to Emitter. 5. Replace power supply.
Low Output (Radiometer Reading) <u>or</u> Visibly Weak Light	<ol style="list-style-type: none"> 1. Replace Emitter with new unit. 2. Check line voltage. 3. Check wiring to Emitter.
Emitter Provides Red/Orange Light	<ol style="list-style-type: none"> 1. Check ambient temperature. If the temperature is at or below 35°F (2°C), Emitter is too cold to operate properly. 2. If ambient temperature is more than 35°F (2°C), follow actions for the Low Output symptom.

ILLUSTRATIONS

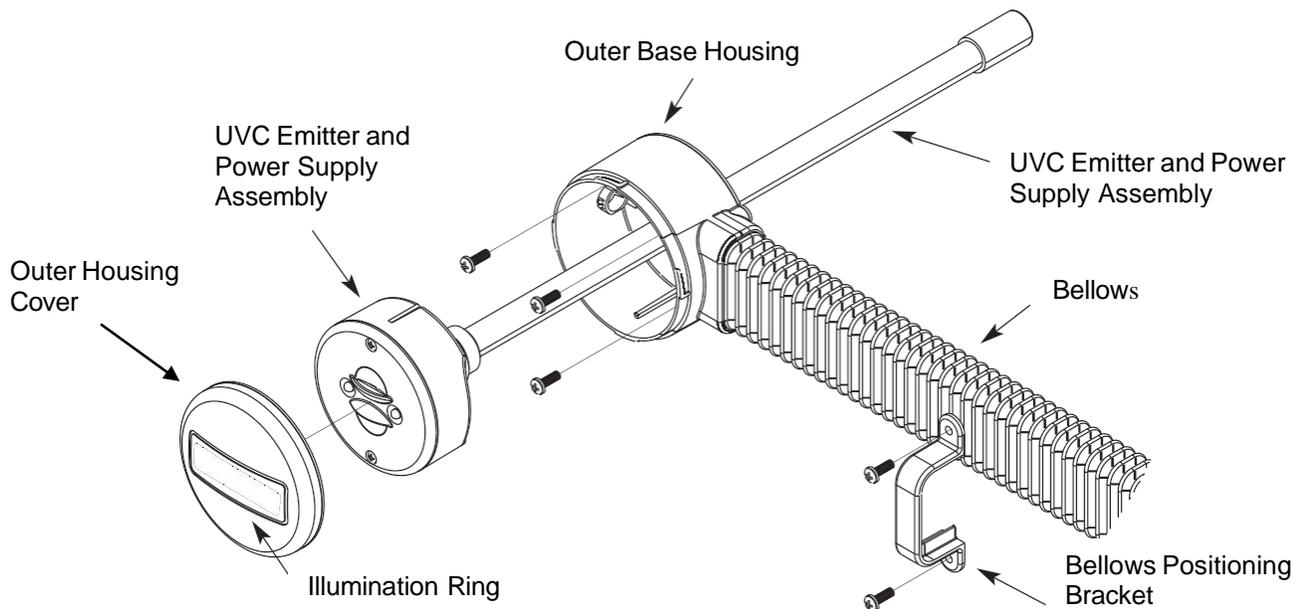


Figure 1. Exploded Drawing of One UVC Emitter and Power Supply Assembly within Steril-Home Dual Kit

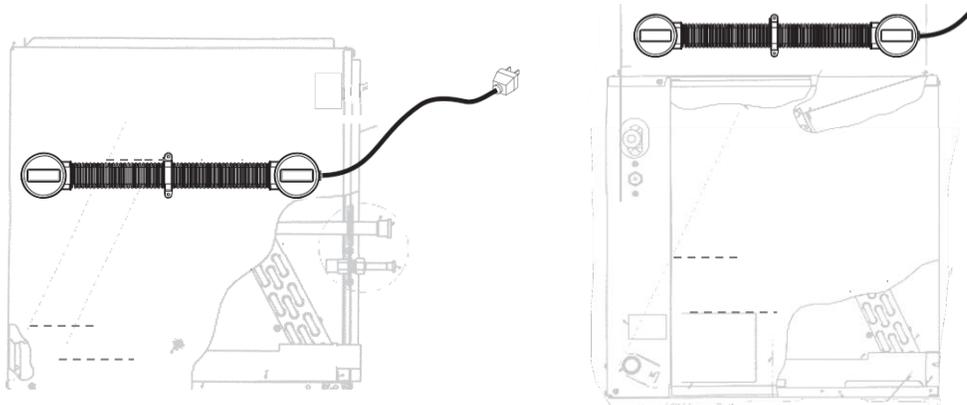


Figure 2. Steril-Home Dual Kit Installed on an A-Coil in Ideal Positioning (Left) Acceptable Positioning (Right)

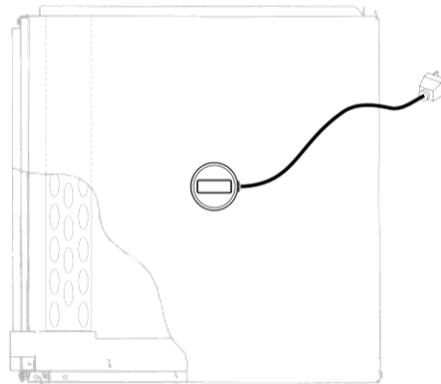


Figure 3. Steril-Home Single Kit Installed on a Slab-Coil

SPARE OR REPLACEMENT PARTS

DESCRIPTION	PART NUMBER
Replacement UVC Emitter and Power Supply Assembly, 120V – 12”	22000740
Replacement UVC Emitter and Power Supply Assembly, 230V – 12”	22000750
Replacement UVC Emitter and Power Supply Assembly, 120V – 16”	22000760
Replacement UVC Emitter and Power Supply Assembly, 230V – 16”	22000770
Replacement UVC Emitter and Power Supply Assembly, 120V – 20”	22000600
Replacement UVC Emitter and Power Supply Assembly, 230V – 20”	22000630
Cleaning Kit	90000100

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The health aspects associated with the use of this product and its ability to aid in disinfection of environment air have not been investigated by UL.