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UV100A Ultraviolet Systems

UV100A1000 AND UV100A1018 AIR TREATMENT SYSTEMS
UV100A1059 AND UV100A2008 SURFACE TREATMENT SYSTEMS

PRODUCT DATA

APPLICATION

When installed in forced air heating and cooling systems, the UV100A Ultraviolet System kills airborne or surface micro-organism contaminants.

FEATURES

- **Snaplamp™ features replacement lamp handle with detachable replacement bulb, UC18W or UC36W, to make replacement more economical.**
- **UV-C light kills airborne bacteria or surface mold.**
- **Continuously emits ultraviolet energy.**
- **UV lamp does not produce ozone.**
- **Sealed unit design prevents accidental installer and homeowner contact with the voltage and with the ultraviolet rays.**
- **Safe design prevents lamps from lighting unless the base is correctly mounted on the HVAC duct.**
- **Lamp light indicator to safely view the lamp operation.**
- **Power cord that plugs into electrical outlet.**
- **Quick and easy bulb replacement.**
- **Easy lamp maintenance.**
- **Optional AIRWATCH™ Indicator can be installed to remind customers when to change bulb.**
- **To capture and minimize micro-organism pass-through in residential heating, ventilation and air conditioning (HVAC) systems, combine the Ultraviolet System with a high-efficiency air filtration system that includes an electronic air cleaner.**
- **Meets American Lung Association® Health House® guidelines.**

Contents

Application/Features....1
Specifications....2
Ordering Information....2
Installation....3
Checkout....9
Troubleshooting and Service....9
Maintenance....9
Parts List....12

68-0248-2

SPECIFICATIONS

IMPORTANT

The specifications in this publication do not include normal manufacturing tolerances; therefore, an individual unit may not exactly match the listed specifications. This product is tested and calibrated under closely controlled conditions and some minor differences in performance can be expected if those conditions are changed.

TRADELINE® Models available:
The UV100A Ultraviolet System is available in four models: a single-lamp air treatment system; a dual-lamp air treatment system; a 120V surface treatment system; and a 240V surface treatment system.

- UV100A Air Treatment System (single-lamp) is mounted in the return air duct of an HVAC system. It has moderate-efficiency performance against airborne bacteria in return air applications.
- UV100A AIr Treatment System (dual-lamp) is mounted in the return air duct of an HVAC system. It has high-efficiency performance against airborne bacteria in return air applications.
- UV100A Surface Treatment System (120V or 240V) is mounted downstream from air conditioner cooling coils of HVAC system. The unit reduces mold growth and spores on duct surfaces, coils and drip pans. (Optionally, UV100A Surface Treatment System can be mounted in return air duct of HVAC system. It has moderate efficiency performing against airborne bacteria in return air applications.)

Efficiencies:
- UV100A Surface Treatment System (120V and 240V): Kills up to 99.9% of mold on system cooling coils or kills up to 75% of airborne bacteria passing by the system (depending on installation).
  - — Test performed in a test duct showed reduction in colony-forming aspergillus niger mold spores when surface was irradiated at a distance of 18 in. for three hours in still air, using new lamps.
  - — Test showed single-pass kill-rate of serratia bacteria in a clean metal 12 in. x 25 in. duct at an airflow of 2000 cfm using new lamps.
- UV100A Air Treatment System (dual-lamp): Kills up to 87% of airborne bacteria passing by the system.
  - — Test showed single-pass kill-rate of serratia marcescens bacteria in a clean metal 12 in. x 25 in. duct at an airflow rate of 2000 cfm using new lamps.
- UV100A Air Treatment System (single lamp): Kills up to 70% of airborne bacteria passing by the system.
  - — Test showed single-pass kill-rate of serratia marcescens bacteria in a clean metal 12 in. x 25 in. duct at an airflow rate of 2000 cfm using new lamps.

Approvals:
Underwriters Laboratories: File no. E212213.

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

Electrical Ratings:
Power Rating: 120 Vac, 60 Hz or 240V, 60 Hz.
Consumption:

Model	Voltage (Vac)	Input Power (A)	Bulb Wattage (W)
UV100A1000 Air Treatment System (single lamp)	120	0.4	18
UV100A1018 Air Treatment System (dual lamp)	120	0.7	36 (each bulb)
UV100A1059 Surface Treatment System (120V)	120	0.85	36
UV100A2008 Surface Treatment System (240V)	240	0.35	36

Temperature Ratings:
Air Treatment System (dual lamp):
Ambient Temperature Range: 30°F to 104°F (-2°C to 40°C).
Lamp Temperature Range: 30°F to 104°F (-2°C to 40°C) and 170°F (77°C) in moving air.
Air Treatment System (single lamp) and Surface Treatment System:
Ambient Temperature Range: 30°F to 120°F (-2°C to 49°C) and 170°F (77°C) in moving air.
Lamp Temperature Range: 30°F to 120°F (-2°C to 49°C) and 170°F (77°C) in moving air.

Relative Humidity:
Up to 95% rh, non-condensing.

Dimensions: See Fig. 3.

ORDERING INFORMATION

When purchasing replacement and modernization products from your TRADELINE® wholesaler or distributor, refer to the TRADELINE® Catalog or price sheets for complete ordering number.

If you have additional questions, need further information, or would like to comment on our products or services, please write or phone:

1. Your local Honeywell Automation and Control Products Sales Office (check white pages of your phone directory).
2. Honeywell Customer Care
   1885 Douglas Drive North
   Minneapolis, Minnesota 55422-4386

In Canada—Honeywell Limited/Honeywell Limitée, 35 Dynamic Drive, Scarborough, Ontario M1V 4Z9.
International Sales and Service Offices in all principal cities of the world. Manufacturing in Australia, Canada, Finland, France, Germany, Japan, Mexico, Netherlands, Spain, Taiwan, United Kingdom, U.S.A.

INSTALLATION

When Installing this Product…

1. Read these instructions carefully. Failure to follow them could damage the product or cause a hazardous condition.
2. Check the rating given in the instructions and on the product to make sure the product is suitable for your application.
3. Installer must be a trained, experienced service technician.
4. After installation is complete, check out product operation as provided in these instructions.

UV-C

⚠ WARNING

UV Light Hazard.
Harmful to bare skin and eyes.
Can cause temporary or permanent loss of vision.
Never look at the bulbs while illuminated.
View illumination only through light indicator located on lamp handle.
To prevent exposure to ultraviolet light, disconnect power to Ultraviolet System before servicing any part of the heating and air conditioning system.
Do not mount device in location that allows ultraviolet light to be seen after installation.
Do not attempt to bypass duct mount switch.
So not attempt to open housing; unit is sealed to prevent ultraviolet light exposure.

⚠ CAUTION

Personal Injury Hazard.
Power supply can cause electrical shock.
Disconnect power supply before beginning installation.
Do not open base unit or lamp handle; there are no user-serviceable components inside.

Selecting Mounting Location

UV-C

⚠ CAUTION

Equipment Damage Hazard.
Ultraviolet light can cause color shift or structural degradation of plastic HVAC materials.
Select mounting location that prevents exposure to plastic components with *unknown resistance to ultraviolet light.* Three-feet minimum is recommended between ultraviolet lamp and plastic-fabricated devices (such as humidifiers and non-fiberglass media filters).

Depending on installation location, the UV System can operate as an Air Treatment System or as a Surface Treatment System.

Air Treatment System

Installed in the return air duct of the system, the Ultraviolet Air Treatment System kills a high percentage of airborne germs circulating through the forced air heating and cooling system. Individual results depend on careful installation and maintenance and on the actual amount of time the system fan operates. See Fig. 1.

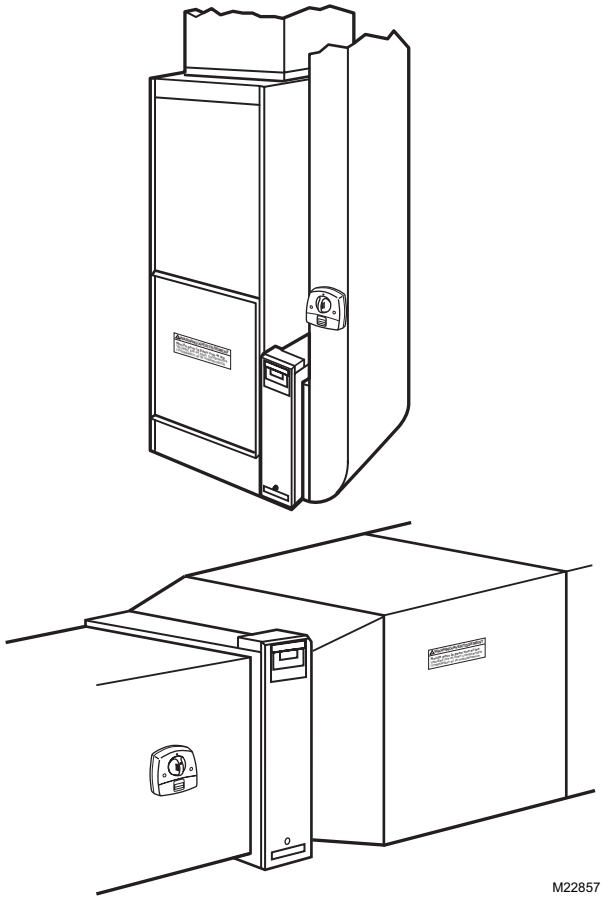


Fig. 1. Typical Air Treatment System installations.

Surface Treatment System

When installed next to the cooling coil, the Ultraviolet Surface Treatment System prevents a high percentage of the growth of micro-organisms such as mold that may grow on duct surfaces, coils and drain pans. Individual results depend on careful installation and maintenance. See. Fig. 2.

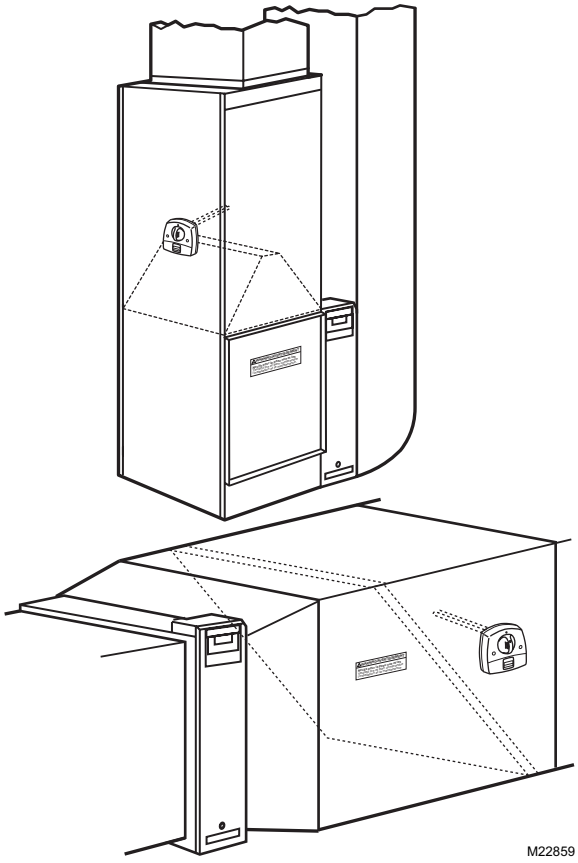


Fig. 2. Typical Surface Treatment installations.

IMPORTANT

If mounting options are limited, protect plastic or rubber materials listed in CAUTION with ultraviolet-resistant material such as aluminum foil duct tape.

NOTE: When the installer is uncertain about whether the drip pan in the installation can tolerate UV exposure, consult the UV exposure white paper, form no. 50-8788, at hbctechlit.honeywell.com Web site.

1. The UV System can be mounted in any orientation.
2. Choose a location that is readily accessible for regular inspection and cleaning.
3. Allow clearance in front of the device for removing the bulb assemblies. See Fig. 3 for bulb assembly lengths.
4. Mount the UV System to non-lined metal ductwork. Do not mount in a location that permits ultraviolet exposure to plastic flexible duct liner.

⚠ CAUTION

Sharp Edges Hazard.
Can cause personal injury.
Be careful when inserting ultraviolet device into the sheet metal cutout.
Wear protective gloves when working near sheet metal.

Duct Mounting

Use the following instructions to mount the UV System on the air duct of an HVAC system:

1. Disconnect power to the HVAC system before installing the UV System.
2. Determine the location for installation (see Fig. 1 and 2):
   a. The UV Air Treatment System requires an easily-accessible, flat mounting surface on the metal return air duct of the HVAC system. The UV Surface Treatment System requires an easily-accessible, flat mounting surface on the metal supply air duct of the HVAC system. The UV Surface Treatment System must be located so the lamp surrounds the evaporator coil and drip pan with ultraviolet light.
   b. The duct mounting location must be a minimum of 8 in. wide. See Fig. 3.
   c. The depth of the duct must accommodate the full length of the ultraviolet bulb for your model as shown in Fig. 3.
   d. The unit should be located as far away as possible from any rubber or plastic components, such as isolators, in the duct.
   e. The space adjacent to the mounting location must be large enough to allow for ultraviolet bulb installation and removal.
   f. A 120V or 240V electrical outlet must be within range of the unit to plug in the power cord.

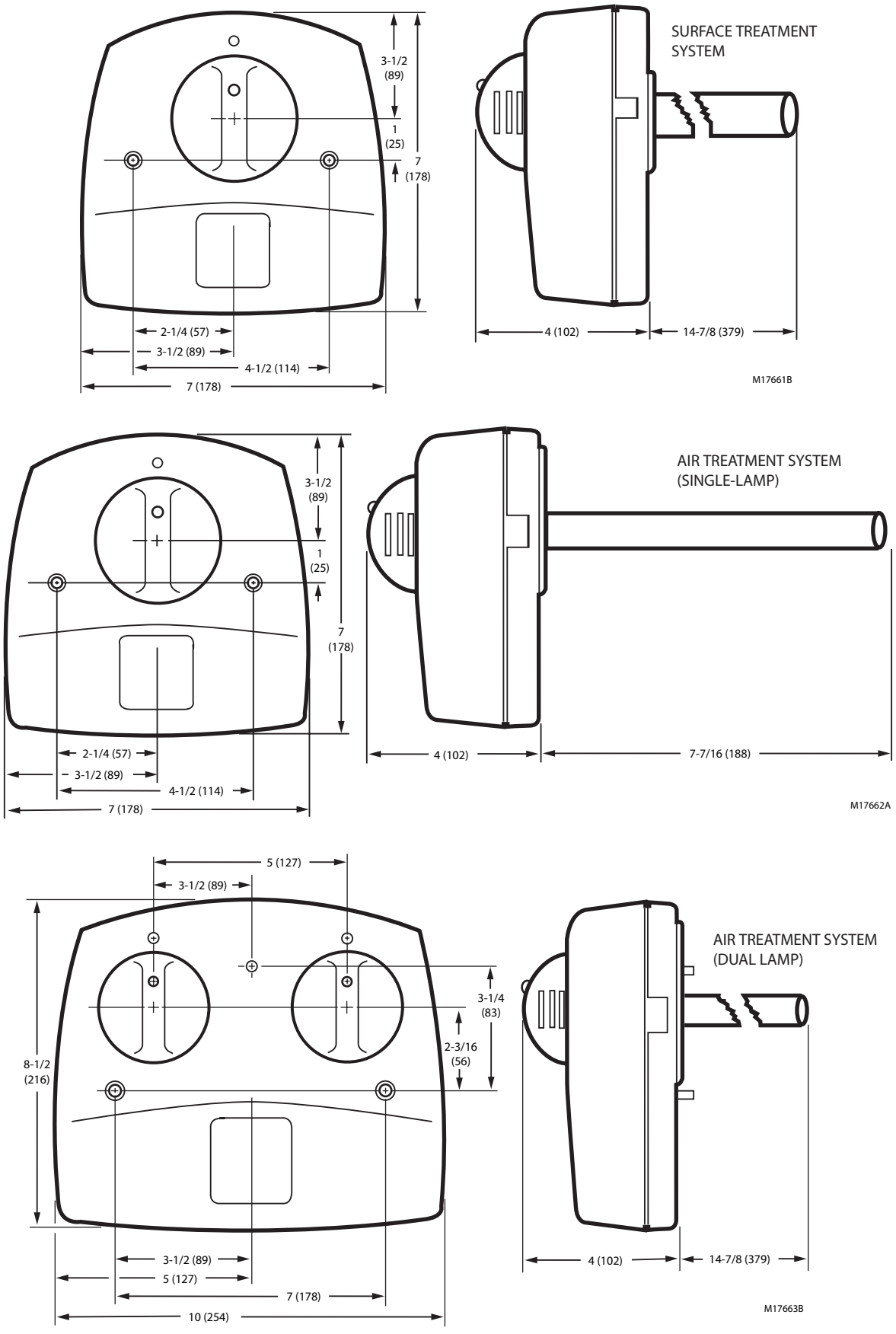


Fig. 3. Ultraviolet System dimensions in in. (mm).

3. Place the appropriate template for your model on the duct surface, centering the bulb hole(s) on the duct. See Fig. 4 (below and next page) for the template for your model.

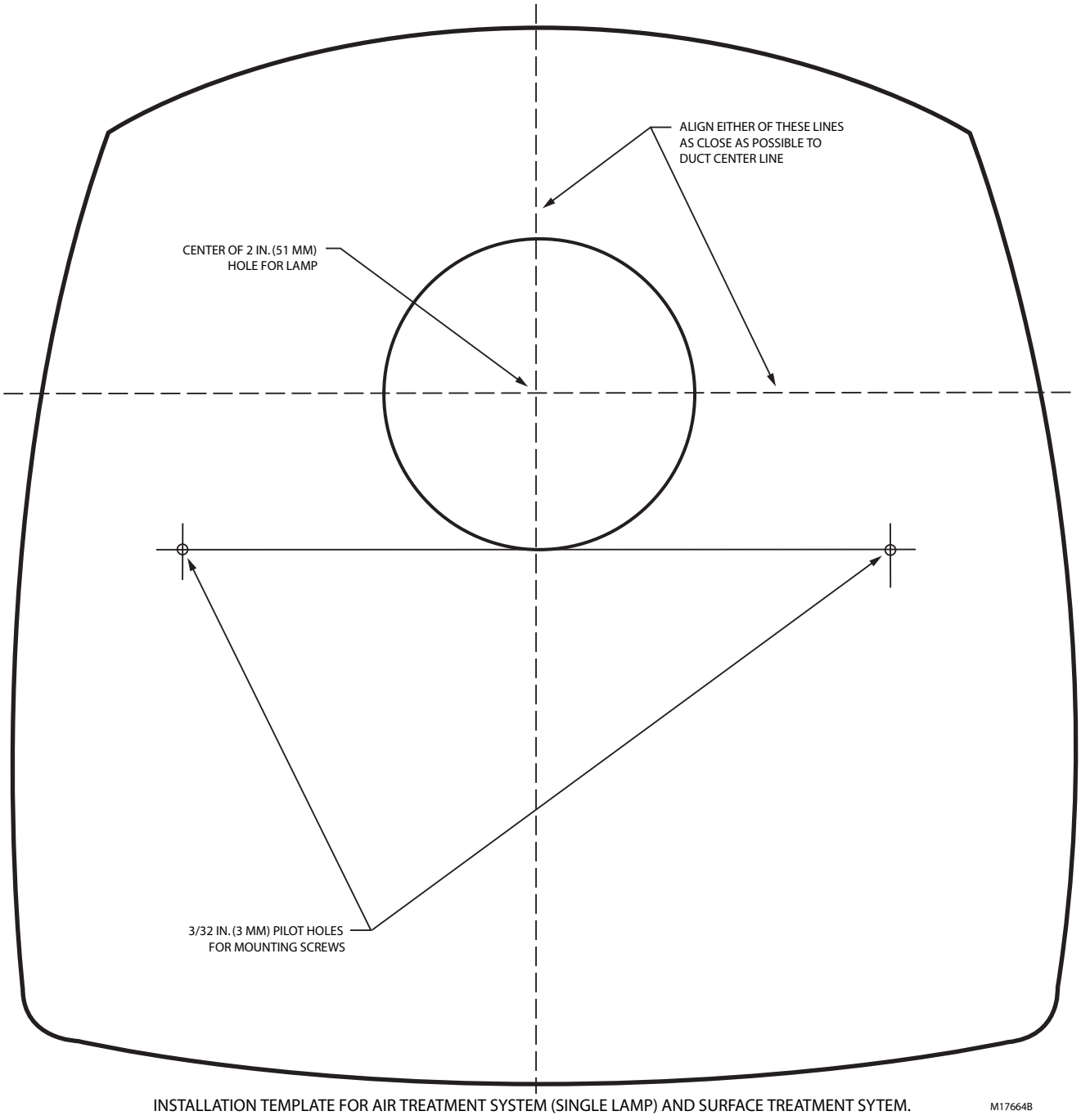
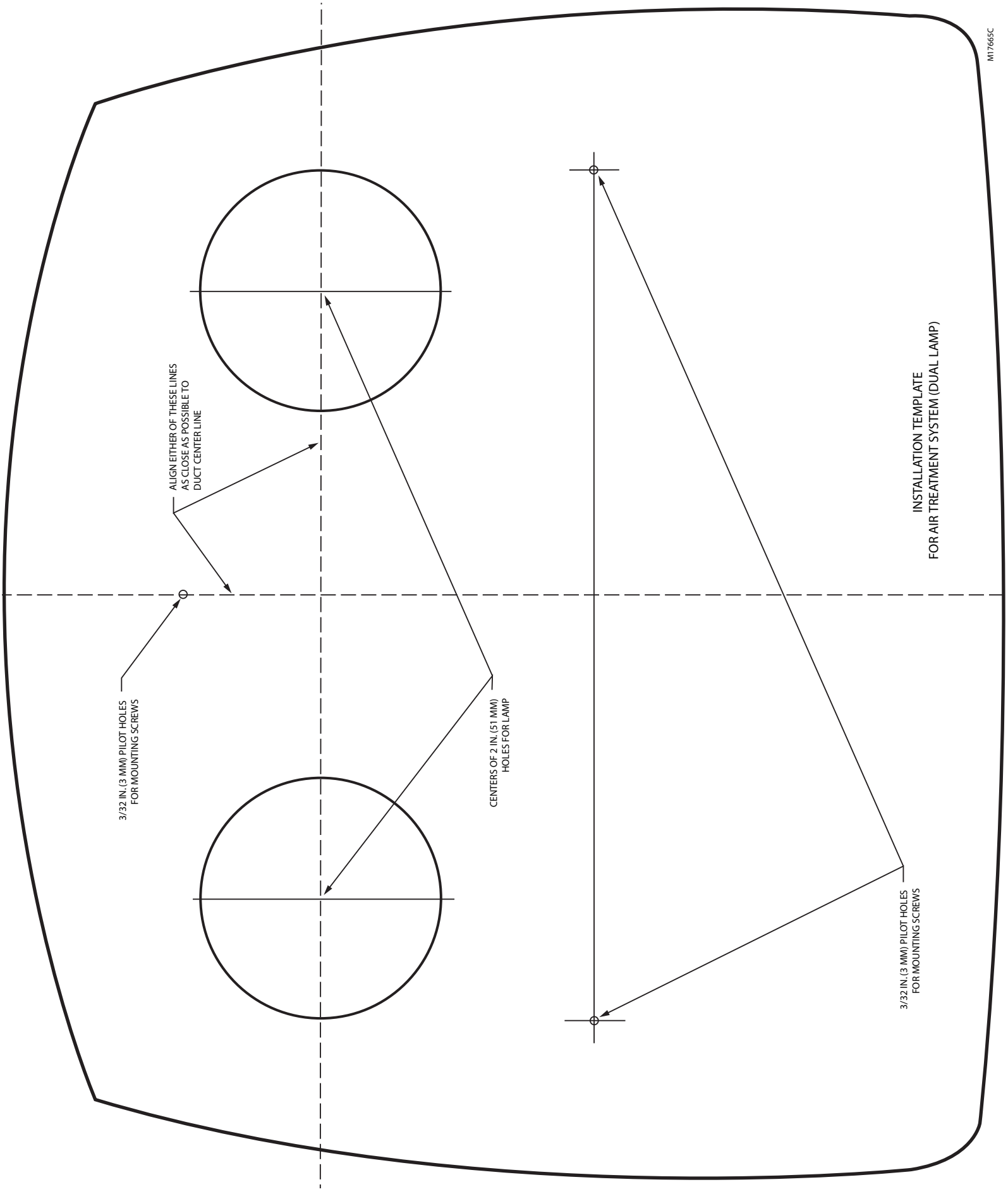


Fig. 4. Ultraviolet System templates.

4. Mark the location on the duct for the 2 in. diameter bulb hole(s) and the unit mounting-screw pilot holes.
5. Cut the 2 in. bulb hole(s) in the duct. Remove any burrs.
6. Use a 3/32 in. drill to provide pilot holes for the mounting screws.
7. Be sure the duct surface is flat after all holes are drilled.
8. Position the entire base unit on the duct. Be sure the bulb holes in the duct align with those in the unit to allow bulb insertion.
9. Install the unit into the duct using the three (or two, depending on the model) no.10, 2 in. Phillips head sheet metal mounting screws provided. (There is a spare screw provided for the three-screw model.)
10. Tighten the screws to 12 to 14 in.-lb. so the space between the case and duct is sealed.


M17665C
INSTALLATION TEMPLATE
FOR AIR TREATMENT SYSTEM (DUAL LAMP)
ALIGN EITHER OF THESE LINES
AS CLOSE AS POSSIBLE TO
DUCT CENTER LINE
3/32 IN. (3 MM) PILOT HOLES
FOR MOUNTING SCREWS
CENTERS OF 2 IN. (51 MM)
HOLES FOR LAMP
3/32 IN. (3 MM) PILOT HOLES
FOR MOUNTING SCREWS

⚠ CAUTION

Breakable Glass Hazard.
Can cause personal injury.
Be careful when inserting bulb(s) into lamp base.
Wear protective gloves when handling bulb(s).

MERCURY NOTICE

This device contains mercury in the sealed ultraviolet bulb(s). Do not place your used bulb(s) in the trash. Dispose of properly.

Broken Bulb Cleanup.
Do not use a household vacuum.
Sweep debris into a plastic bag and dispose of properly.

Contact your local waste management authority for instructions regarding recycling and the proper disposal of old bulb(s).

11. Insert the bulb into the base unit with the lamp light indicator at the eleven o'clock position (left of the raised button on the unit cover). See Fig. 5. If you touch the lamp glass with your hands, use a cloth to wipe fingerprints from the glass. See Fig. 6.

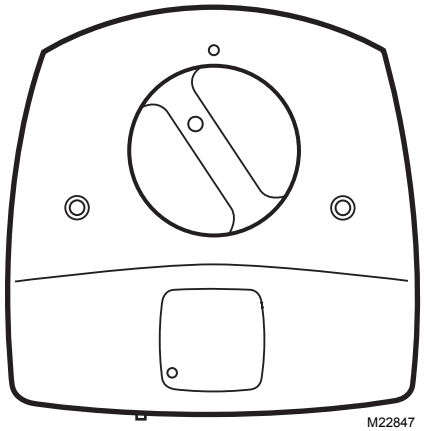


Fig. 5. Insert bulb into base unit.

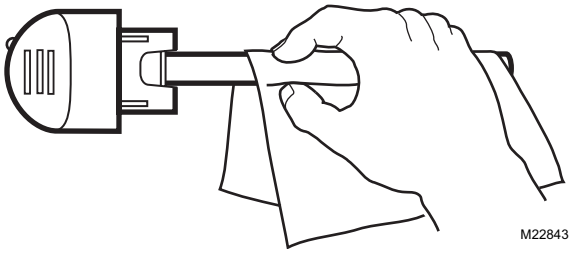


Fig. 6. Use cloth to wipe fingerprints from glass.

12. Continue lightly pushing in on the lamp handle while rotating it slowly counterclockwise. This should cause the lamp handle to drop into the bottom of the lamp well.

13. Rotate the lamp handle clockwise until it snaps into place with the lamp indicator light aligned with the raised button on the unit cover. See Fig. 7.

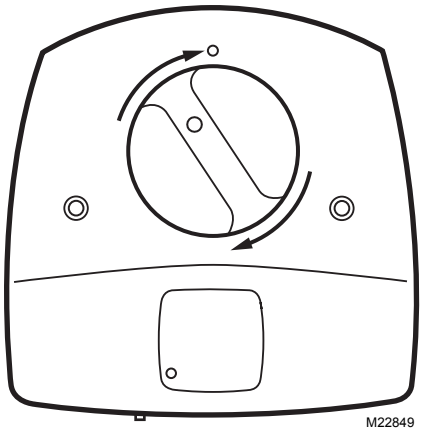


Fig. 7. Snap lamp into place.

UV-C

⚠ WARNING

UV Light Hazard.
Harmful to bare skin and eyes.
Can cause temporary or permanent loss of vision.
Never look at lamp while illuminated.
View illumination only through light indicator located on lamp handle.
To prevent exposure to ultraviolet light, disconnect power to ultraviolet system before servicing any part of heating and air conditioning system.

14. Plug the cord into the nearby 120 or 240 Vac electrical outlet.
15. Reconnect the power to the HVAC system.
16. Choose a location on the adjacent HVAC equipment for the HVAC maintenance label included in the air treatment system packing box. Choose a location that a future installer can easily see during any future HVAC maintenance or repair.
17. Adhere the HVAC maintenance safety label to the HVAC equipment (selected in step 16) such as the furnace, air cleaner or humidifier. See Fig. 8.

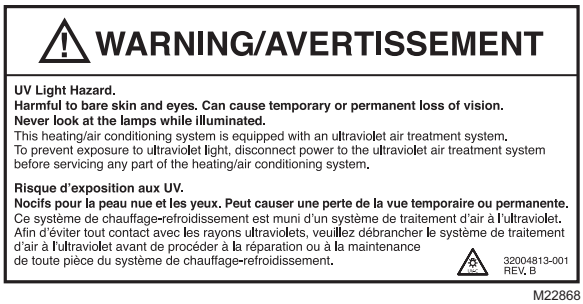


Fig. 8. HVAC maintenance UV safety label.

CHECKOUT

The installer should verify that the ultraviolet bulb(s) are operating *by viewing only through the light indicator on the lamp knob. Do not attempt to look directly into the duct to see the illuminated ultraviolet bulbs*.

The installer should orient the homeowner to the unit by showing them the blue glow of the light indicator and discussing how to determine when the unit is functioning properly without looking directly into the duct to see the illuminated ultraviolet lamp. The installer should also emphasize the hot surface and electrical shock safety warnings.

The installer should leave the Owner's Guide with the homeowner and review the bulb cleaning and replacement procedures. A Bulb Cleaning Schedule is included in the Owner's Guide to help the homeowner set up and track a regular cleaning schedule.

TROUBLESHOOTING AND SERVICE

The Ultraviolet System has no field-serviceable parts. Bulb cleaning is recommended as routine maintenance four times a year or quarterly every three months. Annual bulb replacement is required. See the Owner's Guide for detailed procedural information.

MAINTENANCE

How You Can Maintain Your Ultraviolet System

Your should regularly clean your UV System to maintain peak effectiveness of your Air Treatment or Surface Treatment System. Replace the ultraviolet bulb once a year.

⚠ CAUTION

Personal Injury Hazard.
Power supply can cause electrical shock.
Disconnect power supply before cleaning or replacing ultraviolet bulb(s).
Do not open base unit or lamp handle; there are no user-serviceable components inside.

⚠ CAUTION

Breakable Glass Hazard.
Can cause personal injury.
Be careful when inserting bulb(s) into lamp base.
Wear protective gloves when handling bulb(s).

Quarterly Bulb Cleaning

MERCURY NOTICE

This device contains mercury in the sealed ultraviolet bulb(s). Do not place your used bulb(s) in the trash. Dispose of properly.

Broken Bulb Cleanup.
Do not use a household vacuum.
Sweep debris into a plastic bag and dispose of properly.

Contact your local waste management authority for instructions regarding recycling and the proper disposal of old bulb(s).

Bulb cleaning is recommended as routine maintenance four times a year or every three months. Use the UV Bulb Cleaning Reminder Schedule, Fig. 9, to help establish and track your regular cleaning schedule.

UV BULB CLEANING REMINDER SCHEDULE

INSTALLATION DATE: (month) _____, (year) _____

YEAR	J	F	M	A	M	J	J	A	S	O	N	D

M13516A

Fig. 9. UV bulb cleaning reminder schedule.

UV-C

⚠ CAUTION

UV Lamp Burn Hazard.
Harmful to bare skin.
Can cause severe burns.
Disconnect power 15 minutes before removing ultraviolet bulb(s).

To clean your bulbs:

1. Disconnect the power to your heating and cooling system.
2. Unplug or turn off power to your UV System and allow the bulbs to cool for at least 15 minutes.

3. Rotate your lamp handle counterclockwise and gently pull the lamp handle to remove the bulb(s). See Fig. 10.

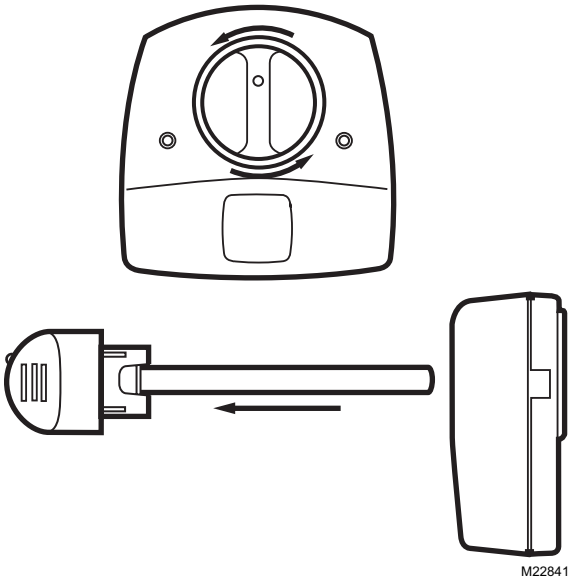


Fig. 10. Remove lamp bulb.

4. Holding the lamp handle, wipe the lamp glass using a soft cloth dampened with glass cleaner. If you touch the lamp glass with your hands, be sure to clean the area of any oils left from bare hands. See Fig. 11.

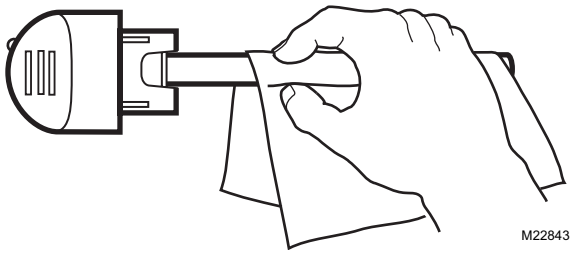


Fig. 11. Clean glass with soft cloth.

5. Also wipe away any dust that may have collected between the lamp light indicator on the base and the black lamp base. See. Fig. 12.

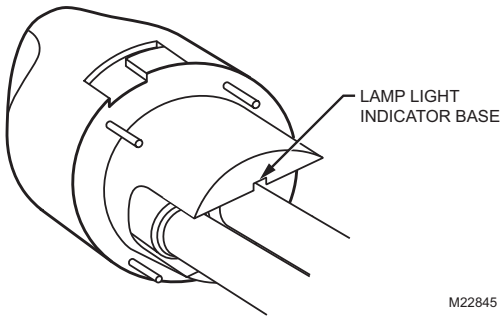


Fig. 12. Wipe lamp light indicator base.

6. Dry bulbs with a clean, dry cloth.

7. Insert the bulb into the base with the lamp light indicator at the eleven o'clock position. Continue pushing and gently rotating counterclockwise until the lamp handle inserts fully into the base. See Fig. 13.

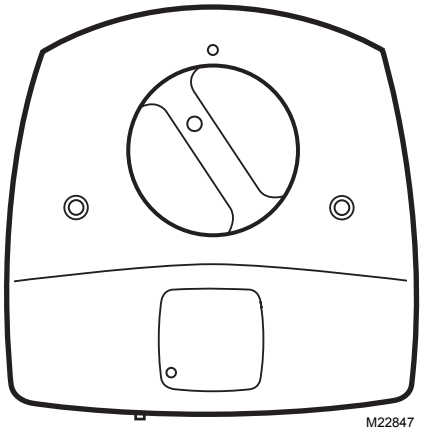


Fig. 13. Position bulb for insertion back into lamp base.

8. Rotate the lamp clockwise until it snaps into place with the lamp light indicator aligned with the raised button on the unit cover. See Fig. 14.

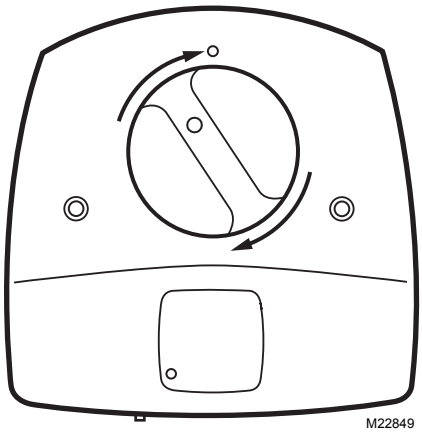


Fig. 14. Snap lamp handle into place.

UV-C

WARNING

UV Light Hazard.
Harmful to skin and eyes.
Can cause temporary or permanent loss of vision.
Never look at bulbs while illuminated.
View illumination only through light indicator located on lamp handle.
To prevent exposure to ultraviolet light, disconnect power ultraviolet system before servicing any part of heating and air conditioning system.

9. Reconnect power to your UV System.
10. Verify that your ultraviolet lamps are operating by viewing only through the lamp light indicator on the lamp handle. Never look directly at your lamp while it is illuminated.
11. Reconnect power to your heating and cooling system.

CAUTION

UV Lamp Burn Hazard.
Harmful to bare skin.
Can cause severe burns.
Disconnect power 15 minutes before removing ultraviolet bulb(s).

Annual Bulb Replacement

Annual replacement of the bulb in your ultraviolet lamp is required to maintain effectiveness:

1. Obtain the correct replacement bulb for your unit. See Table 1.

Table 1. Select a Replacement Bulb/Handle Assembly or Replacement Bulb.

Unit Description	Replacement Bulb/Handle Assembly	SnapLamp™ Replacement Bulb
UV100A1000 Air Treatment System	UC100A1005	UC18W
UV100A1018 Air Treatment System	UC100A1013 (twin pack)	UC36W (two required)
UV100A1059 Surface Treatment System	UC100A1051	UC36W
UV100A2008 Surface Treatment System	UC100A1051	UC36W

2. Disconnect the power to your heating and cooling system.
3. Unplug or turn off power to your UV System and allow the bulbs to cool for at least 15 minutes.
4. Rotate the lamp handle counterclockwise and gently pull the lamp handle to remove the bulb. See Fig. 5.
5. If you have a SnapLamp™ handle, follow steps 5 and 6; otherwise, proceed to step 7. Grasp the SnapLamp™ handle in one hand and the lamp glass in the other and pull straight apart. See Fig. 15.

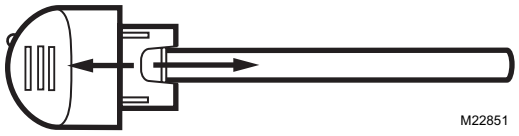


Fig. 15. Disconnect lamp glass from SnapLamp™ handle.

6. Insert the new lamp glass into the SnapLamp™ handle by aligning the key and pushing straight together. See Fig. 16.

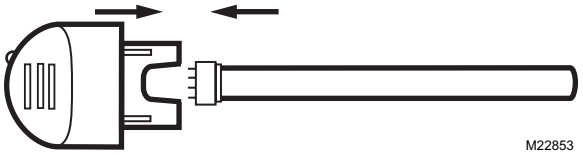


Fig. 16. Replace lamp glass in SnapLamp™ handle.

7. Insert the lamp handle into the base with the lamp light indicator at the eleven o'clock position. Continue pushing and gently rotating counterclockwise until the lamp handle inserts fully into the base. See Fig. 13.

UV-C

WARNING

UV Light Hazard.
Harmful to bare skin and eyes.
Can cause temporary or permanent loss of vision.
View illumination only through light indicator located on lamp handle.
To prevent exposure to ultraviolet light, disconnect power to ultraviolet system before servicing any part of heating and air conditioning system.

8. Rotate the lamp handle clockwise until it snaps into place with the lamp light indicator aligned with the raised button on the unit cover. See Fig. 14.
9. Reconnect power to your UV System.
10. Verify that your ultraviolet lamp is operating by viewing only through the lamp light indicator on the lamp handle. Never look directly at your lamp while it is illuminated.
11. Reconnect power to your heating and cooling system.

PARTS LIST

Unit Description	Replacement Bulb/Handle Assembly	Replacement Bulb
UV100A1000 Air Treatment System (single lamp) **(left photo)**	UC100A1005	UC18W
UV100A1059 Surface Treatment System (120V) **(center photo)**	UC100A1054	UC36W
UV100A2008 Surface Treatment System (240V) **(center photo)**	UC100A1054	UC36W
UV100A1018 Air Treatment System (dual lamp) **(left photo)**	UC100A1013 (twin pack)	UC36W (two required)

Honeywell

Choose better indoor air for your family by installing Honeywell solutions. You'll enhance your comfort and peace of mind.

Ultraviolet Systems
Zap airborne germs and prevent mold spore growth on air conditioning coils

Whole-House Air Cleaners
Trap a high percentage of airborne particles of the air passing through it

Whole-House Humidifiers
Moisturize air— humidity is ideal for minimizing adverse health effects

Zoning Systems
Control temperature by area in your home, saving energy and improving comfort

PerfectWindow® Air Exchangers
Ventilate your home to assure fresh air while minimizing energy loss

Programmable Thermostats
Save up to 30% in annual energy costs with this easy-to-use thermostat*

*depending on geography and usage

M18621B

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68-0248-2 G.H. Rev. 04-05

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