

# Honeywell

envira**aire**  
ELITE™

## UV100E Ultraviolet Air Treatment System OWNER'S GUIDE



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## HOW YOUR ULTRAVIOLET AIR TREATMENT SYSTEM WORKS

When installed in forced air heating and cooling systems, your UV100E Ultraviolet Air Treatment System kills a high percentage of micro-organism contaminants, such as mold and bacteria, in the air passing over it. Individual results depend on how carefully all installation and maintenance requirements are followed and on the actual amount of time your air delivery fan operates.

The UV systems use patent-pending SmartLamp™ control technology that monitors the HVAC system to operate the lamps only when needed. This technology extends lamp life up to five times and reduces power consumption, lowering operating costs. The UV systems also include local diagnostics with the SmartLamp™ LED and reset capability.

You can capture and minimize micro-organism pass-through in your heating, ventilation and air conditioning (HVAC) system when you combine your Ultraviolet Air Treatment System with a high-efficiency air filtration system that includes an electronic air cleaner. Talk to your installer about adding an electronic air cleaner to complement your air treatment system and provide added protection for you and your family.

Your UV100E Ultraviolet Air Treatment System unit is one of these three models: a single-lamp, moderate-efficiency return air unit; a dual-lamp, high-efficiency return air unit; or an air conditioner coil irradiation unit.

- UV100E single-lamp and dual-lamp return air units are mounted in the return air duct of an HVAC system. The units have high-efficiency performance against airborne bacteria in return air applications.
  - *Without Enviracom hooked up:* monitors air flowing through ductwork using supplied airflow sensor mounted to backside of unit. Operates lamps when air is flowing (120 fpm minimum), leaving lamps on for 40 minutes after airflow stops. If airflow resumes during the 40 minutes, the timer resets to 40 minutes. When no airflow is detected for 40 minutes, the lamps turn off until the next occurrence of airflow.
  - *With Enviracom hooked up:* monitors thermostat load information instead of using airflow sensor to operate on and off.
- UV100E coil irradiation unit is mounted in the supply-side air duct or downstream or upstream from air conditioner evaporator coils in HVAC system. It reduces mold growth and spores on duct surfaces, coils and drip pans.
  - Does not use an airflow sensor.
  - *Without Enviracom hooked up:* operates steady on/off cycle: lamp operates three hours on, three hours off for a total two-year life cycle.
  - *With Enviracom hooked up:* after initial three hours run time, operates three hours on and three hours off during times when the evaporator A-coil may be exposed to moisture, including when the control sees a cooling call and for 30 days after the last cooling occurred. This operation extends the lamp life beyond two years.

**Enviracom™ Communications Capabilities:**

- Communicates with homeowner through three-wire communication bus using 24 Vac thermostat connections.
  - *Hooked up to single-lamp and dual-lamp return air models:* uses thermostat load information instead of airflow sensor.
  - *Hooked up to coil irradiation mode:* uses thermostat load information to operate during times evaporator A-coil may be exposed to moisture to extend lamp life beyond two years.
- Sends messages to communicate reset and receives remote reset, when available.
  - Lamp change indication cannot be reset by cycling power.
  - When Enviracom is transmitting messages, shows flashing green Enviracom LED on bottom of unit.
- Other messages include percent of lamp remaining, internal faults, and lamps energized.
  - Control calculates percent of lamp run time/starts remaining and sends out this information through an Enviracom message.
  - When Enviracom is transceiving messages, shows solid green Enviracom LED on bottom of unit.

## HOW YOU CAN CHECK YOUR ULTRAVIOLET AIR TREATMENT SYSTEM OPERATION



### **WARNING**

**UV Light Hazard.**

**Harmful to bare skin and eyes.**

**Can cause temporary or permanent loss of vision.**

Never look at the lamps while illuminated.

Only view illumination by way of the light pipe indicator located on the lamp knob.

To prevent exposure to ultraviolet light, disconnect power to the ultraviolet air treatment system before servicing any part of the heating/air conditioning system.

Do not attempt to open housing; unit is sealed to prevent ultraviolet light exposure.

Your Ultraviolet Air Treatment System has a power cord that plugs into a 120 Vac electrical outlet. Your unit is designed to prevent accidental contact with the voltage and with the ultraviolet rays in the sealed unit—the ultraviolet lamps do not illuminate unless the base is mounted on the HVAC duct.

Monthly you should verify that the ultraviolet lamp(s) are operating *only by viewing the light pipe indicator on the lamp knob. Do not attempt to look directly into the duct to see the illuminated ultraviolet lamps.*

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

The LED on the front of the UV system operates as follows:

LED Status	Indicates	Homeowner Action
Off	100 to 11% lamp life <sup>a</sup> remaining	Nothing
Flashing	10 to 1% lamp life <sup>a</sup> remaining	Purchases lamp(s)
Solid	0% lamp life <sup>a</sup> remaining	Replaces lamp(s)

<sup>a</sup>Lamp life means emitting adequate amount of UV-C energy to maintain an effective kill rate. At 0% lamp life remaining, the lamps continue to operate until catastrophic lamp failure (lamp burns out) but the kill rate becomes rapidly negligible.

Installer should also orient you to the reset button on the bottom of the UV system that, when pressed briefly for one second, can be used to command lamps on for the minimum run time of 40 minutes (return) or three hours (coil), depending on unit type. And that when a new lamp is installed, you must hold the reset button for five seconds to reset the internal timers. Cycling power does not reset internal timers.

When using the Envirocom communication bus to communicate with other appliances, the installer should orient you to the Envirocom LED and three screw terminals. The Envirocom LED flashes when transmitting and lights solidly when there is a fault.

The installer should also explain the extended-lamp life for the coil irradiation model. For the single-lamp and dual-lamp return air models, the installer should orient you to the alternate method of using the UV device to monitor the thermostat load information to turn lamps off and on instead of using the air flow sensor to control lamp operation and that it communicates the percent remaining lamp life.

The installer should leave the Owner's Guide and Product Data with you and review the lamp cleaning and lamp replacement procedures. A Lamp Cleaning Schedule is included in the Owner's Guide to help you set up and track a regular cleaning schedule.

# HOW YOU CAN MAINTAIN YOUR ULTRAVIOLET AIR TREATMENT SYSTEM

## How You Can Maintain Your Ultraviolet Air Treatment System

You should regularly clean your ultraviolet lamps to maintain your air treatment system. And when the LED on the front of the UV system is lighted solidly, you must remember to replace your ultraviolet lamps.



### **CAUTION**

**Personal Injury Hazard.**

**Power supply can cause electrical shock.**

Disconnect power supply before cleaning or replacing ultraviolet lamp(s).

Do not open base unit or lamp knob; there are no user-serviceable components inside.



### **CAUTION**

**Breakable Glass Hazard.**

**Can cause personal injury.**

You should regularly clean your ultraviolet lamps to maintain your air treatment system. And once every year, you must remember to replace your ultraviolet lamps.

## Cleaning Your Lamps Every Three Months (Quarterly)

Lamp cleaning is recommended as routine maintenance four times a year or every three months (quarterly). Use the Ultraviolet Lamp Cleaning Reminder Schedule, Fig. 1, to help you establish and track your regular cleaning schedule.



### **MERCURY NOTICE**

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

**Broken Lamp Cleanup.**

**Do not use a household vacuum.**

Sweep debris (phosphor/glass) into a plastic bag and dispose of properly.

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



4. Holding only the lamp knob, wipe the lamp glass using a soft cloth with window cleaner applied to it. Do not touch the lamp surface with your hands. Use only the cloth.
5. To ensure that the lamp indicator continues to function, use a moistened cotton swab to gently remove any dust that may have collected between the lamp light indicator on the base and the black lamp base.
6. Wipe your lamps with a clean, dry cloth.
7. Put your clean lamps back into the unit base by following Replacing Your Lamps section steps 5, 6, and 7.



## **WARNING**

### **UV Light Hazard.**

**Harmful to bare skin and eyes.**

**Can cause temporary or permanent loss of vision.**

Never look at the lamps while illuminated.

Only view illumination by way of the light indicator located on the lamp knob. To prevent exposure to ultraviolet light, disconnect power to the ultraviolet air treatment system before servicing any part of the heating/air conditioning system.

8. Plug the cord into the nearby 120 Vac electrical outlet.
9. Wait ten minutes for the airflow sensor to calibrate. During this time, the furnace fan must remain Off.

**NOTE:** Failure to wait ten minutes for the airflow sensor to calibrate before powering the furnace causes the airflow sensor to incorrectly calibrate and the device to incorrectly function. If this occurs, remove power to the furnace or turn off the system and fan, wait ten minutes, and then resume normal furnace operation.

10. Verify that the ultraviolet lamp(s) are operating *only* by viewing through the lamp light indicator on the lamp knob. *Never look directly at your lamps while illuminated.*
11. Reconnect the power to your HVAC system.



## CAUTION

**UV Lamp Burn Hazard.**

**Harmful to bare skin.**

**Can cause severe burns.**

Disconnect power 15 minutes before removing the ultraviolet lamp(s).

### IMPORTANT

*If the lamps in your model have external wires running along the glass surface, be sure to avoid pulling on those wires.*

## Replacing Your Lamps

Replacement of your lamps is required when LED on front of the unit is lighted solidly.

NOTE: LED blinking slowly, one second on and one second off, indicates that ten percent or less of lamp life remains and homeowner must order new lamp(s).

### IMPORTANT

*Anytime the reset button is pushed, the lamp(s) should come on (as indicated by the illuminating light pipe). To determine if a lamp is burned out or other problem exists, **press the reset button briefly (one second). Hold reset button longer (five seconds) only when replacing lamp.***

To replace your lamps:

1. Select and obtain the correct replacement lamp for your unit. See Table 1.
2. Disconnect the power to your HVAC system.
3. Unplug your ultraviolet air treatment system cord from the electrical outlet and allow the lamps to cool for at least 15 minutes.
4. Rotate the lamp knob counterclockwise and gently pull the lamp knob to remove the lamp(s).
5. Insert the lamp into the base unit with the light pipe indicator at the eleven o'clock position (left of the raised button on the unit cover). **Do not touch the lamp surface with your hands.**
6. Continue lightly pushing in on lamp while rotating it slowly counterclockwise until lamp to drops into bottom of lamp well.
7. Rotate lamp clockwise until it snaps into place with light pipe indicator aligned with raised button on unit cover.





## **! WARNING**

### **UV Light Hazard.**

**Harmful to bare skin and eyes.**

**Can cause temporary or permanent loss of vision.**

Never look at the lamps while illuminated.

Only view illumination by way of the light pipe indicator located on the lamp knob.

To prevent exposure to ultraviolet light, disconnect power to ultraviolet air treatment system before servicing any part of heating/air conditioning system.

8. Plug your ultraviolet air treatment system cord into the nearby 120 Vac electrical outlet.
9. Wait ten minutes for the airflow sensor to calibrate. During this time, the furnace fan must remain Off.

**NOTE:** Failure to wait ten minutes for the airflow sensor to calibrate before powering the furnace causes the airflow sensor to incorrectly calibrate and the device to incorrectly function. If this occurs, remove power to the furnace or turn off the system and fan, wait ten minutes, and then resume normal furnace operation.

10. Verify that your ultraviolet lamp(s) are operating *only by viewing through* light indicator on lamp knob. *Never look directly at your lamp(s) while illuminated.*
11. Reconnect the power to your HVAC system.
12. Press and hold the reset button on the bottom of the device for five seconds to reset the internal timers.

**Table 1. Replacing Your Lamp(s).**

<b>Unit Description</b>	<b>Replacement Lamps</b>	<b>Wattage</b>
UV100E1043 Single-Lamp Return Air Unit	UC100E1006	18W
UV100E3007Coil Irradiation Unit	UC100E1030	36W
UV100E2009 Dual-Lamp Return Air Unit	UC100E1014 (twin pack) (two lamps provided)	36W each lamp

## Five-Year Limited Warranty

Honeywell warrants this product, excluding lamps, to be free from defects in the workmanship or materials, under normal use and service, for a period of five (5) years from the date of purchase by the consumer. If, at any time during the warranty period, the product is defective or malfunctions, Honeywell shall repair or replace it (at Honeywell's option) within a reasonable period of time.

If the product is defective,

- (i) return it, with a bill of sale or other dated proof of purchase, to the retailer from which you purchased it, or
- (ii) package it carefully, along with proof of purchase (including date of purchase) and a short description of the malfunction, and mail it, postage prepaid, to the following address:  
Honeywell Return Goods  
Dock 4 MN10-3860  
1885 Douglas Dr N  
Golden Valley, MN 55422

This warranty does not cover removal or reinstallation costs. This warranty shall not apply if it is shown by Honeywell that the defect or malfunction was caused by damage which occurred while the product was in the possession of a consumer.

Honeywell's sole responsibility shall be to repair or replace the product within the terms stated above. HONEYWELL SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE OF ANY KIND, INCLUDING ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING, DIRECTLY OR INDIRECTLY, FROM ANY BREACH OF ANY WARRANTY, EXPRESS OR IMPLIED, OR ANY OTHER FAILURE OF THIS PRODUCT. Some states do not allow the exclusion or limitation of incidental or consequential damages, so this limitation may not apply to you.

THIS WARRANTY IS THE ONLY EXPRESS WARRANTY HONEYWELL MAKES ON THIS PRODUCT. THE DURATION OF ANY IMPLIED WARRANTIES, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, IS HEREBY LIMITED TO THE FIVE YEAR DURATION OF THIS WARRANTY. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

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

If you have any questions concerning this warranty, please write Honeywell Customer Relations, Honeywell, 1985 Douglas Dr N MN10-1461, Golden Valley, MN 55422. In Canada, write Retail Products ON15-02H, Honeywell Limited/Honeywell Limitée, 35 Dynamic Drive, Scarborough, Ontario, M1V4Z9.



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