

SI-950 Ultraviolet Incubator

User Instructions



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Introduction

This single chamber unit is designed for the variable-temperature incubation and humidification envelopment of microbiology organisms, biology assays and any protocol requiring heat incubation in the range of ambient +10°C to 68°C.

The Incubator is constructed with built-in overhead shortwave 254nm UV tubes for decontamination of the chamber between experiments.

Safety Information

The UV Incubator is designed with function, reliability and safety in mind. It is the user's responsibility to install the unit in conformance with local electrical codes.

Specifications

Temperature	
Range	Ambient to 68°C
Sensor	LM345 Integrated Temperature Sensor
Controller	PI
Setpoint	Digital
Display	Digital LED
Accuracy	+0.5°C
Uniformity	+0.1°C at 37°C
Relative Humidity	~ 80%

Unit Heat Load	
Typical operation	Incubation
Heating Element	1250 Watts, 4,265,1777 BTUXH

Dimensions	
Exterior W x H x D	17.5 x 17 x 14" (445 x 432 x 356mm)
Interior W x H x D	14 x 10.7 x 10.9" (356 x 272 x 277mm)

Shelves (2 standard)	
Dimensions (W x D)	13.3 x 8.5" (338 x 216mm)
Construction	Formed stainless steel
Surface area	113.05 in ²

Construction	
Interior volume cu ft	0.95 cubic feet (26.9 liters)
Interior	Stainless steel
Exterior	Aluminum powder coated
Door	Polycarbonate

Electrical	
115V	60 Hz
230V	50 Hz
100V	50/60 Hz

Additional Specifications	
Pollution degree	2%
Installation Category	II
Altitude	2000m
Indoor Use	Incubator is designed for operation inside a building only
Main supply	Not to exceed 10% of the nominal supply voltage.

Installing the Incubator

1. Remove the incubator from its packaging.
2. Place the unit on a level working surface and provide adequate room in front of the system to allow the door to be opened easily.
3. Plug the female end of the power cord into the back of the unit.
4. Plug the male end of power cord into a surge-protected electrical outlet.
5. Press the I/O toggle switch located in front of unit to turn the incubator on. The touch pad should illuminate.
6. Select the desired temperature by pressing the touchpad up and down arrows. The internal temperature will be displayed on the touchpad.

Operating the Incubator

Setting the Temperature

When the power is turned on, the LED display flashes the software version number for several seconds. The display will then show the internal ambient temperature for several seconds and adjust to the set temperature (displayed in degrees Celsius). This setting is adjustable from the ambient temperature to 68°C.

The current setpoint value can be altered by pressing the “UP” and “DOWN” buttons on the touchpad while the value is being displayed on the LED display. To change the setpoint:

1. Momentarily press then release either the “UP” or the “DOWN” button. The LED intensity will flash to indicate that the displayed value is the current setpoint.
2. Increase or decrease the setpoint value by pressing the “UP” or “DOWN” buttons respectively. If either button is held down for more than several seconds, setpoint value will increase or decrease continuously.
3. When the desired setpoint is reached, wait approximately five seconds without pressing either button. The display will revert to normal mode showing the actual temperature.

The new setpoint becomes effective and is stored in the non-volatile memory when the display reverts to the normal mode.

Calibrating the Temperature Reading

The incubator is calibrated at the UVP factory at 37 °C. UVP recommends that temperature recalibration be performed at the UVP factory as recalibration by the user may void the warranty. Obtain an RGA (Returned Goods Authorization) number from UVP prior to returning a unit to the factory. Call UVP’s customer service department for information.

Setting the Decontamination Cycle

The SI-950 UV Incubator provides an automated process for eliminating contamination by utilizing the germicidal properties of ultraviolet light. The UV light is typically operated when no samples are inside the chamber. The entire chamber is decontaminated, eliminating viable fungi, bacteria and yeast. Visible light decontamination makes the SI-950 ideal for cGMP sterility testing and BL3 laboratories.

To operate the decontamination function, turn the master power on. Then, turn the **UV key lock** to the horizontal position to operate the germicidal lamp housed within the chamber.

Note: Do not attempt to incubate cultures with the germicidal lamp on. The germicidal lamp is used to decontaminate the internal chamber of the incubator between experiments.



Insert the UV key to operate the shortwave UV. Remove the key after using the UV to avoid accidental exposure of samples during incubation.



*UV key in the **OFF** position.*



*UV key in the **ON** position.*

Warning: Exposure to UV light is dangerous. Keep the door closed.

The incubator door is UV blocking and will not allow UV radiation to pass through. The germicidal lamp will shut off if the door is opened.

A Word of Caution: The UV Incubator contains a powerful source of UV radiation that will cause damage to unprotected eyes and skin. Before operating the unit, be sure all personnel in the area are properly protected. It is preferable that the unit be installed and operated in an area where access and exposure are limited while the unit is in operation. Even though the unit shuts the UV off when the door is open, UV Blocking Eyewear should be worn. UVP carries a complete line of UV Blocking Eyewear, including Spectacles, Goggles and Faceshield. See "Replacement Parts" for more information.

Extended periods of time can be used to decontaminate the interior of the incubator chamber by the destruction of organisms such as:

- | | |
|-----------------------------|----------------------------|
| -Bacillus anthracis | -Proteus vulgaris |
| -Bacillus subtilis | -Salmonella |
| -Corynebacterium | -Streptococcus hemolyticus |
| -Escherichia Coli | -Aspergillus niger |
| -Micrococcus candidus | -Saccharoyces ellipoides |
| -Mycobacterium tuberculosis | -Influenza |
| -Chlorella vulgaris | -And others |

Recommendations for UV Decontamination

Typically, the germicidal lamp is used during periods of non-use (overnight and during weekend periods of non-cultivation) to ensure a clean, non-infectious incubatory surface exists prior to sample testing.

Care and Cleaning

The units are built to provide trouble-free operation.

NOTE: The door is made of a polycarbonate plastic material and is subject to scuffing and scratches if improperly cleaned.

To ensure correct operation:

- Wipe excess water from inside the unit and outside the unit with an absorbent soft cloth or sponge.
- Use mild soap and water with a soft cloth or sponge to clean the exterior of the unit.
- Use a mild detergent on the interior surfaces.
- **Warning:** Unplug the UV incubator before cleaning around the UV bulb contacts.
- Clean the door with a mild detergent; **never** use organic based compounds or cleansers containing alcohol or ammonia.
- Do not use abrasive pads or cleansers.
- A plastic cleaner solution is recommended to clean the door. Such cleaner is available from local plastic supply distributors.

Replacement Parts and Replacement Instructions

Replacement parts are listed below for the SI-950 UV Incubator:

- | | |
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| • Key, replacement | 53-0178-03 |
| • Tube, 8-watt, 254nm shortwave germicidal | 34-0007-01 |
| • Tray, stainless steel ventilated | 10-0341-08 |
| • Spectacles, UV blocking (UVC-303) | 98-0002-01 |
| • Goggles, UV blocking (UVC-503) | 98-0002-02 |
| • Face Shield, UV blocking (UVC-803) | 98-0002-04 |

Replacing the UV Shortwave Bulb

1. Turn the unit power off and unplug the unit from the power outlet.
2. Open the incubator door and locate the bulb. Carefully rotate the tube and slide the bulb out of the socket.
3. Using two hands, carefully hold the bulb and fit the bulb end into the socket. Replace with a new tube by sliding the tube into the socket and rotating into place.

Maintenance, Repair and Technical Assistance

UVP offers technical support for all of its products. If you have questions about the product's use, operation or repair, please contact UVP's offices at the locations below.

Troubleshooting

Plates Drying Out

Ensure that the door is securely closed to prevent any external air from entering the incubator chamber.

Returned Goods Authorization

Note: A Returned Goods Authorization (RGA) number must be obtained from UVP Customer Service before returning any product.

You may contact UVP's Customer Service based on your location:

If you are in North America, South America, East Asia or Australia:	If you are in Europe, Africa, the Middle East or Western Asia:
Call (800) 452-6788 or (909) 946-3197 , and ask for Customer Service during regular business days, between 7:00 am and 5:00 pm, PST.	Call +44(0) 1223-420022 , and ask for Customer Service during regular business days between 9:00 am and 5:30 pm.
E-mail your message to: info@uvp.com	E-mail your message to: uvp@uvp.co.uk
Fax Customer Service, and send it to (909) 946-3597	Fax Customer Service, and send it to: +44(0) 1223-420561
Write to: UVP, LLC 2066 W. 11 th Street, Upland, CA 91786 USA	Write to: Ultra-Violet Products Ltd Unit 1, Trinity Hall Farm Estate, Nuffield Road, Cambridge CB4 1TG UK

Warranty

UVP's products are guaranteed to be free of defects in materials, workmanship and manufacture for one (1) year from date of purchase. Consumable and disposable parts including, but not limited to tubes and filters, are guaranteed to be free from defects in manufacture and materials for ninety (90) days from date of purchase. Transilluminators carry a two (2) year warranty from date of purchase. If equipment failure or malfunction occurs during the warranty period, UVP shall examine the inoperative equipment and have the option of repairing or replacing any part(s) which, in the judgment of UVP, were originally defective or became so under conditions of normal usage and service.

No warranty shall apply to this instrument, or part thereof, that has been subject to accident, negligence, alteration, abuse or misuse by the end-user. Moreover, UVP makes no warranties whatsoever with respect to parts not supplied by UVP or that have been installed, used and/or serviced other than in strict compliance with instructions appearing in this manual. In no event shall UVP be responsible to the end-user for any incidental or consequential damages, whether foreseeable or not, including but not limited to property damage, inability to use equipment, lost business, lost profits, or inconvenience arising out of or connected with the use of instruments produced by UVP. Nor is UVP liable or responsible for any personal injuries occurring as a result of the use, installation and/or servicing of equipment.

This warranty does not supersede any statutory rights that may be available in certain countries.