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TECHNICAL INFORMATION

Puissant 30-Watt Shortwave UV Light Sources

Catalog Nos. SKSUV30, SKSUV40

INTRODUCTION

The SKSUV30 and SKSUV40 lamps provide high intensity shortwave (254nm) illumination for searching for untreated latent fingerprints. Two 15-watt germicidal lamps provide a full 30 watts of shortwave UV light. The SKSUV30 is equipped with a shortwave filter that blocks visible light, while the SKSUV40 is supplied without the filter. A sturdy base provides self-support for hands-free operation. This light is ideal for searching large areas or for outdoor use during daylight hours. Each unit features dual voltage capability for either 110V or 220V AC operation. It is especially useful when used as a companion to the *KRIMESITE™ IMAGER*. The Puissant lamp may be transported or stored in its durable molded carrying case.

Please read through this entire Technical Information Sheet before attempting to use this device.

No. SKSUV30

No. SKSUV40

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FIGURE 1

PROCEDURE

The Puissant Lights operate from a standard AC power source. A sensor built into the lamp circuitry detects whether the power source is 110V AC or 220V AC, and automatically switches to the proper power configuration (220V AC cord adapter is not included).

A single, rocker-type ON/OFF switch controls the bulbs. After being certain that all safety precautions have been taken, and that all those present are wearing the necessary protective gear, plug the power cord into the nearest power outlet, direct the lamp toward the area to be searched, and switch it ON. Visible light may be seen when the lamp is on, but you should not look directly into the lamp.

The lamp may be carried around the area being searched using the carrying handle, or it may be placed on a flat, level surface (Fig. 1). To avoid unnecessary exposure to the UV radiation, all of those present should remain behind the light source.

SPECIAL PRECAUTION: Avoid the use of shortwave UV light (254nm) in the presence of visible bloodstains if subsequent DNA analysis is a consideration. Collect blood samples prior to short-wave UV light exposure.

TROUBLESHOOTING

Lamp Does Not Illuminate or Illumination Is Intermittent

1. Check for worn, frayed or loose power cord. Be certain the power outlet is working.
2. Check for a loose or blown line fuse.

3. Check for loose or broken bulbs, especially if the unit has been dropped or has received a sever shock (see MAINTENANCE for instructions on bulb access and replacement).

FIGURE 2

MAINTENANCE

Fuse, bulb and filter replacement is the ONLY maintenance to be done by the end-user.

Bulb Replacement:

1. Disconnect the lamp from the AC power source.
2. Place the unit on a flat surface with the power switch facing down. Remove the four (4) retaining screws on both sides of the unit that secure the filter assembly to the lamp housing (Fig. 2).
   NOTE: *Do not remove the four screws on the front (filter side) of the unit.*
3. Carefully remove the filter assembly and set it aside.
4. The bulbs are fitted with standard fluorescent-type terminals on each end. Grasp a bulb, twist in either direction, and lift it up to remove it from the end connectors (Fig. 3).
5. Place the new bulb into the end connectors and twist in either direction until the bulb snaps into place.

FIGURE 3

6. Replace the filter cover and secure it with the four screws, but do not over tighten. The unit is now ready for use.

Filter Replacement:

1. Disconnect the lamp from the AC power source.
2. Place the unit on a flat surface with the power switch facing down. Remove the 4 retaining screws from the sides of the unit (refer Fig. 3). Lift the filter assembly from the unit and place it on a flat surface—filter side up. While supporting the underside of the filter assembly with one hand, remove the four (4) screws from the front of the unit (Fig. 4). Lower the filter and its retaining bracket to the work surface and set the cover aside. The glass filter is now exposed. Carefully remove the cracked or broken filter and discard. Remove any glass shards that have fallen into the unit as well.

FIGURE 4

FIGURE 5

3. Place the new filter, rough side facing out, into the retaining bracket as shown in Figure 5. Reassemble the filter assembly and secure it with the four (4) screws from the front of the unit, but do not over tighten. Fit the filter assembly on the lamp housing and reinstall the 4 retaining screws without over tightening. The unit is now ready for use.

Fuse Replacement

1. Disconnect from power source. To remove the line fuse, grasp the fuse holder, push in and twist counter-clockwise. Pull the fuse out of the lamp housing.

2. Replace the fuse with a 3AG 1 Amp, 250V fast-blo type. Reinsert the fuse into the housing, push in and twist until it locks.

If replacing the lamps and/or the line fuse fails to solve the problem, please contact the factory for return authorization. Call Customer Service at (919) 554-2534.

SKSUV30/40 SPECIFICATIONS:

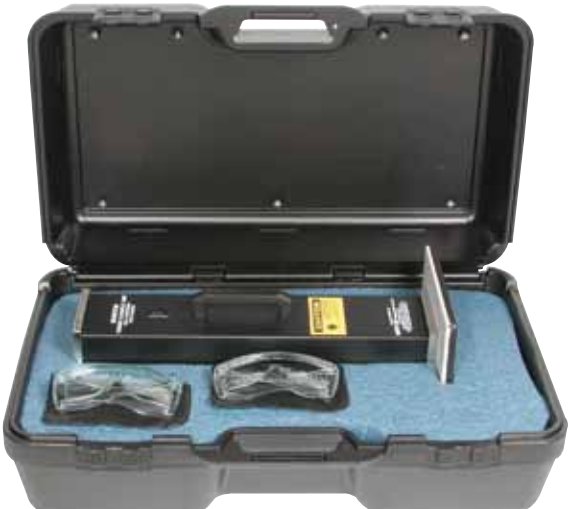
- **Weight:** 6.96 lbs.
- **Unit Size:** 4.5"W x 4"D x 19.75"H
- **Unit Base:** 7.625"W x 8.625"D x 12"H
- **UV Lamps:** 2x 15-watt
- **Power Requirements:** 110V or 220V AC, fused

SKSUV30/40 CONTENTS:

1- Puissant UV Light Source, SKSUV30 or SKSUV40

2- 797GV Protective Spectacles

1- Durable Molded Carrying Case; Dimensions: 29"W x 17"H x 12"D; Weight: 14.51 lbs.



PRECAUTIONS: ULTRAVIOLET RADIATION

The three areas of ultraviolet radiation are UV-C at 100 to 280nm, UV-B at 280 to 315nm, and UV-A at 315 to 400nm. UV-C is the shortest wave ultraviolet radiation and UV-A is the longest wave ultraviolet radiation.

The retina of the eye is not very vulnerable in the ultraviolet or the far-infrared portions of the spectrum. It is the cornea and the lens that absorb ultraviolet. High exposure levels can permanently damage these structures of the eye. Intermediate levels in the UV (200-320nm) cause greater injury to the cornea, which is severe but temporary. The injury, photokeratitis, may last for only one or two days but is extremely painful. Near-ultraviolet (long wavelength UV-A) is absorbed heavily in the lens of the eye. Damage to this area of the eye may not be evident for many years and may have lasting effects.

Human skin is also susceptible to radiation injury. This susceptibility occurs in the range of radiant energy present in the ultraviolet spectral region of 200-320nm. This type of radiation can cause severe sunburn. Certain photosensitizing chemicals greatly increase the sensitivity of the skin. Previous exposures to specific wavelength bands that are generally in the long wavelength ultraviolet and visible portion of the spectrum also sensitize the skin. Some orally administered drugs such as tetracyclines and common pain relievers also cause photosensitization.

The factors predisposing individuals to possible harm from ultraviolet radiation are:

- Sensitivity of the individual
- The length of exposure
- Intensity of the ultraviolet light source
- Light source/surface distance

Recommended Personal Protective Equipment:

- UV absorbing face shield or glasses with side shields
- Long sleeved laboratory coat or overalls
- Opaque cotton or garamid fiber gloves

SIRCHIE's shortwave UV lamps utilize low-pressure mercury lamps, which emit radiation in the UV-C (254nm) spectrum. Any amount of exposure to these lamps should be considered hazardous and protective equipment for the eyes and exposed skin must be worn. When using any UV lamp, avoid needless exposure to radiation and turn the lamp off when not in use.

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