



OPERATION AND REPAIR MANUAL

ProofCure SR Model



TABLE OF CONTENTS

- 1.0 SAFETY WARNINGS CONCERNING THIS SYSTEM
- 2.0 SYSTEM INSTALLATION
- 3.0 SYSTEM OPERATION
- 4.0 ROUTINE MAINTENANCE

HOW TO CONTACT UVDOCTORS, INC.

By Telephone: (Mon -Fri 8:00 am - 4:00 pm Eastern) 443-820-3365

By Fax: 443-820-3701

By email: webmaster@uvdoctors.com



1.0 SAFETY WARNINGS CONCERNING THIS SYSTEM

1.1 General. While this system has been designed to provide a safe operating condition, there are several safety areas which the operator and management must be aware of.

1.2 Ultra Violet (UV) Light. The Ultra Violet range of the spectrum can be hazardous to over-exposed operators. Like a sunburn, high doses of UV light can cause skin burns and significant discomfort. Operators should avoid placing arms, hands, or any other uncovered body part in the direct light from the UV lamp. Additionally, high doses of UV light absorbed by the eye can cause a burning of the cornea known as “welder’s eye”. This condition, though painful, is temporary. Operators should avoid staring at the UV light for prolonged periods of time and should never attempt to look directly at the UV lamp while it is in operation.

1.3 Ozone. When Air is exposed to certain wavelengths of UV light, a form of Oxygen known as Ozone is produced. Ozone is irritating to the mucous membranes in the eyes, throat, and lungs and has an odor of rotten eggs. Fortunately, the human nose can detect Ozone at concentrations well below the point where irritation can begin. A small amount of Ozone is normally generated during start up. This Ozone is mixed with a large volume of cooling air by design, so the resulting Ozone concentration is very low. In most cases, the concentration is so low that it cannot be detected by smell.

1.4 High Voltage. This system contains a step-up transformer allowing the lamp to operate at voltages above normal supply voltage. High voltage is present when the lamp is in operation. The system is enclosed to prevent accidental contact with high voltage components. Only trained service personnel should attempt to service the system. Under no circumstances should the operator or service technician attempt to defeat an interlock or operate the system with guards or covers removed. The high voltage capacitor in the ProofCure retains an electrical charge for a period of time after the system has been shut off. Proper precautions must be taken to discharge the capacitors before servicing the equipment.

1.5 High Temperature. The lamp operates at approximately 800 degrees Celsius. Components around the lamp reach an elevated temperature during operation and pose a burn risk. Allow the lamp to completely cool before removing covers or attempting to touch any of the internal components in the irradiator.



2.0 PREPARING THE SYSTEM FOR OPERATION

2.1 Choosing a Location. The ProofCure is designed to operate on a laboratory bench top. Cooling air is drawn in through a louver in the bottom of the unit. This air cools the bulb and transformer before being discharged out the rear of the unit. Select a location with a hard level surface away from sources of dust and fumes which could be drawn into the ProofCure unit. Clean the surface of dust and dirt before setting the ProofCure in place. Allow at least 1 inch clearance between the back of the ProofCure and any object or obstruction. This will ensure proper cooling air flow.

2.2 Connect Utilities. The ProofCure is totally self-contained, requiring only a source of 115 VAC power. Connect the power cord supplied with the ProofCure to any 115 VAC wall outlet. NOTE: The ProofCure power cord is supplied with a grounding plug. When connecting, ensure that the wall outlet is properly grounded.

3.0 OPERATING THE PROOFCURE

3.1 Basic Theory of Operation. The UV lamp operates with a special electrical circuit which provides a voltage high enough to start the lamp, while regulating the power to the lamp during operation. When voltage is applied to the lamp, the mixture of gasses and mercury inside the lamp begin to conduct. As current flows through the lamp, the temperature of the lamp climbs to the design operating temperature. This is the warm up stage of lamp operation. Once this level has been achieved, the lamp can operate continuously. A spring-loaded tray allows samples to be fed through the unit.

3.2 Front Panel Controls. The controls for the ProofCure are integrated into a single three position rocker switch. In the OFF (Center) position, power is removed from the system. The ON (Bottom) position selects continuous operation of the unit. The AUTO (Top) position selects an energy saving mode which turns the ProofCure off after approximately 20 minutes.

3.3 Turning the Unit On. With the power cord plugged in, turn the control switch located on the front panel to ON or Auto, depending on the desired mode. The cooling fan will automatically turn on. You will notice a glow in the drawer area of the unit. As the unit warms up, this glow becomes brighter and changes from a blue hue to white. This transformation takes approximately 1.5 to 2 minutes. At this point, the lamp has warmed up and the unit is ready for processing.

3.4 Processing Proof Samples with the ProofCure. Once the unit is warmed up, samples can be processed at a pace dictated by the operator. Place proof samples in the well of the slider tray with the uncured ink facing up. Push the tray all the way into the unit until it stops and then immediately release the tray. Once released, the tray automatically retracts to the starting position. The ink sample should be completely dry. If necessary, push the tray in again and release to complete the cure. Newer units have a slider tray made from magnetic stainless steel. This allows use of strip magnets to hold samples in place to prevent sample curling.



3.5 Modes of Operation. In the ON Mode, the lamp remains on until the control switch is turned off. This mode allows for sustained operation for as long as required. The Auto Off (“AUTO”) mode will automatically shut the lamp power off after approximately 15 minutes. This mode saves energy if the operator forgets to shut it down. Contact UVDDoctors, Inc. if you require a different ON period

3.6 Shut Down. When ready to shut the lamp system down, turn the Control Switch to the OFF position. Wait for approximately 2 to 3 minutes after turning the lamp off before attempting to restart the lamp. This allows the lamp to cool down and reduces stress on the lamp.

3.7 Restoring Operation after AUTO OFF Shutdown. To restore power after the Auto Off function has shut the power off, turn the Control Switch briefly to the OFF position and then back to the AUTO position. This begins the lamp start up sequence.

4.0 ROUTINE MAINTENANCE

4.1 Cleaning Optical Surfaces. Proper operation of the UV lamp depends on the condition of the lamp and reflectors. Dust and other contaminants can form a layer on the optical surfaces of lamps and reflectors which block UV light and seriously degrade performance. Inspect lamp and reflectors on a regular basis and clean with a soft lint-free cloth and Isopropyl alcohol. Take care not to touch the surface of the quartz with bare skin, as skin oils can leave marks on the quartz and potentially lead to premature lamp failure.

4.2 Cleaning Filters and Louvers. Filter and louvers are provided to enable proper cooling air flow through the system components. Blockage due to build up of dust or other foreign objects can impede this cooling air flow and cause overheating and component damage. Inspect all filters, louvers, and gratings on a regular basis. Remove foreign objects and vacuum or blow off the filters and louvers to remove the dust build up.

4.3 Lamp Maintenance. Proper cleaning of the lamp will prolong its useful life. Inspect and clean the surface of the lamp as necessary. Monitor the condition of the lamp ends. Darkening of the tube near the electrodes is a sign of normal lamp deterioration. Replace the lamp when darkening exceeds 1 inch per side or when loss of cure is experienced.