

UV PROCESS SUPPLY, INC.

5" 300 WPI PORTABLE LAMP SYSTEM [#A012-006; #A012-006 (ozone-free)] INSTRUCTIONS

The 5"/300WPI Portable Lamp System is designed to withstand the harsh environment created in a U.V. curing oven. The specially treated reflector withstands the corrosive ozone atmosphere and high temperature for long periods of time without losing reflectance.

FOCUS

The elliptical reflector is pre-set at the factory to converge all lamp rays 2-3/16" in front of the lamp housing. This is a theoretical point and the actual is between 1-11/16 and 2-11/16 inches due to arc magnification of the reflector system. For maximum cure speed it is advisable to always center the work within the arc length confines of each Portable Lamp System.

COOLING

The intense heat generated by the lamp will soon melt the reflector and reflector housing if no cooling is provided. Most cooling requirements are handled by the built-in exhaust blower, however, more air cooling can be provided as long as no air is blown directly over the lamp proper. If irradiators are to be placed facing one another as in a web application, staggered mounting is recommended and increase in cooling necessary,

SHIELDING

The Portable System emits ultraviolet radiation which is harmful to eyes and skin. Great care should be taken to ensure that personnel are not exposed to direct or reflected radiation. Suitable eye protection such as Orange UV Filter Glasses, should be worn when lamp is in operation. Any material capable of blocking light will stop ultraviolet light. Light gauge sheet metal is a good shielding material. Remember that one-third of the energy emitted by the lamp is in the infrared range of the spectrum and fireproof materials should always be used.

CLEANING

To ensure maximum output of the optical system, all components must be clean. Dirt on the lamp and reflector will reduce the ultraviolet intensity by absorbing UV energy and turning it into unwanted infrared. A periodic cleaning procedure is recommended. Lamps should be handled only when cold, with clean cotton gloves or wrapper. Should the lamps be touched with bare hands, clean with alcohol to remove fingerprint oils. All surfaces must be completely dry before operation. Before cleaning or relamping, always turn power OFF.

POWER SUPPLY

Each Portable power supply is designed for 120 volt operation. Abnormal deviation from this value will result in damage to either the power supply or low UV output, or both. In areas of low voltage or voltage fluctuation, a variable power transformer must be installed in series prior to the Portable power supply as to maintain a 120 volt input voltage. Each power supply must be grounded, Do not remove ground on power supply cord.

WARM-UP

When starting the Portable lamp, a four minute warm-up period is required for the lamp to attain full intensity. If the mating power supply is equipped with an optional half-power control, be sure this control is in the high intensity mode during this initial warm-up period.

OPTIONAL HALF-POWER CONTROL

If the curing work is stopped for a short period of time, it may be desirable to utilize this optional high/low lamp intensity control to reduce lamp output at an idle mode operating at approximately half the rated power. In this idling position, the lamp is very sensitive to cooling. No moving air should be directed at the lamp, since over cooling will lower mercury vapor pressure and reduce output. It is advisable to allow approximately one minute recovery time for the lamp to reach full power after being switched from the low intensity position. All power supplies equipped with optional half-power control must be kept in the horizontal position (feet down) while lamp is in operation. Maximum deviation from the horizontal should never exceed 30 degrees. The position of the lamp/lamp assembly does not affect the half power control.

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TROUBLESHOOTING

Under normal conditions and with a good cleaning procedure established, very little trouble can be expected with this Portable System. Some possible problems include:

1. Slow cure on new irradiators.
 - a. Has work been set in the focus area 1-11/ 16 to 2-11/16 inches in front of the lamp housing?
 - b. Is lamp reaching full intensity (wattage)? Check input voltage power supply while curing lamp is operating, Power supply is designed for 120 volt operation. Remember a 5% decrease in input voltage (from 120 to 114 volts) will typically yield a 9.4% decrease in curing lamp wattage (from 1500 to 1359). To correct this situation, a variable power transformer must be installed in series prior to the Portable power supply in order to maintain a 120 voltage input voltage.
 - c. Is lamp in position for peak intensity? Consult factory for focus adjustment.
2. Cure speed declines on established irradiators
 - a. Lamp has reached end of useful life -- replace.
 - b. Reflector has deteriorated -- replace aluminum reflector inserts.
 - c. Dirt has accumulated -- clean units per cleaning instructions.
3. Uneven cure.
 - a. Reflectors have become warped and distorted during operation --- replace.
4. Lamp sockets arc to lamp.
 - a. Overheating has produced excessive linear expansion reducing contact arc --- increase cooling, check for air blockages.
 - b. No cooling air available to enter irradiator over louvered front panels --- increase air entrance through panels and outside shielding.
5. Reflectors blacken.
 - a. Insufficient air cooling or cleaning has caused local hot spot -- increase cooling and replace aluminum reflector insert.

OPERATIONAL PROCEDURE, PORTABLE IRRADIATORS

- (A) Have the Portable lamp assembly shielding and lamp to power supply cable connected.
- (B) Plug power supply into any 120 volt grounded electrical outlet. When plugging cord into outlet, be sure all switches are in OFF position.
- (C) Put main power switch in ON mode. The red indicator lamp will light at this time. Be sure half-power switch is in high position.
- (D) Put lamp switch to ON position. This will light the Portable curing lamp. Allow four (4) minutes for warm-up time.
- (E) After warm-up, optional half power lamp intensity may be utilized. This switch puts the lamp in an idle mode operating at approximately half the rated Output.

SHUT-DOWN PROCEDURE

- (A) Have half power option in high position.
- (B) Turn lamp switch to OFF position.
- (C) Allow main switch to operate cooling fans for four (4) minutes to cool the lamp.
- (D) Turn main power switch to OFF position. Red indicator lamp will go out at this time.
- (E) Remove service cord from electrical outlet.
- (F) Turn lamp switch to OFF position.

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