

## O.R. UV SYSTEM INSTALLATION AND DESCRIPTION

- A) Door Barrier DB-36 - These fixtures are to be installed over doorways. Two fixtures for each four-foot of door are required. These fixtures are to operate from an electrical switch other than the variable transformer. DO NOT use the variable transformer as a source for the door barrier fixtures.
- B) Surface Mounted SM-36/200 - There are a total of eight (8) of these fixtures. Four (4) are positioned around the O.R. table, one on either side, and one at each end. The remaining four (4) are positioned equidistant from *each* other around the perimeter of the room. The variable transformer operates all eight (8) SM-36/200 fixtures. The ORLS-36 light shields are designed to direct the light rays. Position them accordingly.
- C) Variable Transformer - This should be positioned on the wall accessible to the operator. The variable transformer regulates the electricity to the ultraviolet lamps and controls their intensity during the operation. Always set at 100%, and then turn down to the correct intensity level.
- D) IL-1400 Meter & Sensor - This device measures the intensity of ultraviolet light on the O.R. table. The sensor is placed on the O.R. table. The measurement of ultraviolet intensity is expressed in microwatts per centimeter square ( $\mu\text{W}/\text{cm}^2$ ). During an operation, the lamps should be regulated such that the meter reads  $23 \mu\text{W}/\text{cm}^2$ . Position the sensor as close as possible to the actual wound site (see separate instructions on the operation of the meter).
- E) Visorgogs - These provide eye protection from ultraviolet rays for personnel in the O.R. room. Ultraviolet rays will cause conjunctivitis of the eye, if the eyes are not protected during exposure. The visorgogs must be worn whenever the lamps are in use.
- F) Solbar - Solbar is a number 15 sunblock. It protects exposed skin areas from surface burns caused by prolonged exposure to the ultraviolet rays. Those individuals with ultra-sensitive skin should use a sun block with a rating of at least 25.

Personnel using certain medications, especially those which produce side effects of photosensitivity, may experience difficulty and should avoid exposure.

## OPERATION

- Step 1 Using the variable transformer, turn the lamps on at 100% full power. Allow them to stabilize for a minimum of 5 minutes. The lamps should remain at 100% for a minimum of 1 hour prior to an operation. This will reduce the amount of bacteria and other microorganisms in the OR. room. Once the lamps have stabilized, it is time to lower the intensity for the operation. This can be done 5 minutes prior to positioning the patient.
- Step 2 Utilizing the UV radiometer; place the sensor on the OR. table. The sensor should be at or close to the approximate location of the operation. Turn the meter on, in the microwatt scale. Zero the readout, with the sensor facing down on the table. Once this is done, position the sensor upright. When taking your readings, do not stand over the sensor. This could cause a shadow effect and affect the reading on the meter.  
After the meter reads zero, adjust the variable transformer intensity until the meter display reads between 20 and 23 microwatts. The intensity is displayed in the 32 character alphanumeric LCD display area. **DO NOT** utilize the lamps at a greater intensity than 23 microwatts.
- Step 3 Once the intensity is set at or about 23 microwatts, shut the meter off remove it from the O.R. table. No further readings are required during the operation.
- Step 4 All personnel must wear Visorgog safety glasses and utilize the Solbar U.V. absorbing cream when the U.V. lamps are on. **NOTE: THIS INCLUDES THE PATIENT.**
- Step 5 When the operation is complete, reset the lamps at 100% (full power) maintaining this condition for at least one (1) hour if possible. Subsequent operations require lowering of the intensity of the lamps with the use of the IL-1 400 meter. Refer to steps 2 through 5.
- Step 6 U.V. lamps age with use and should be replaced after 8000 hours of operation or if the variable transformer must be set at 50% or below. Note: When ordering replacement lamps, please specify catalog number GML005 from American Air & Water<sup>®</sup>, Inc.
- Step 7 Should damage occur to the IL-1400 radiometer, return it immediately to American Air & Water<sup>®</sup>, Inc. for recalibration and repair. The meter, under normal use, should be recalibrated every two years. Recalibration.



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takes approximately 3 weeks from receipt.

Step 8 Ultraviolet lamps should be cleaned monthly. Alcohol with a clean, lint free cloth should be used to wipe the lamps and reflectors on the fixtures. The use of steel wool or other abrasive is discouraged since the material will scratch the lamp or reflector.

Germicidal ultraviolet radiation is harmful to eyes and exposed skin. Never look at a light without Visorgog safety glasses. Exposed skin requires sun block to avoid sunburn conditions after prolonged exposure.