



# Users Manual

## VersaCure Portable Conveyor UV Lighthouse & Power Supply

**HIGH POWER WIDE FORMAT  
(12" to 16")**



**DISCLAIMER**

**WARNINGS:** 1.) When operating this unit, air flow must be fully unobstructed. 2.) User must provide appropriate shielding to protect against UV radiation exposure. 3.) Heat generated from the lamp must be effectively evacuated from within the lamp housing.

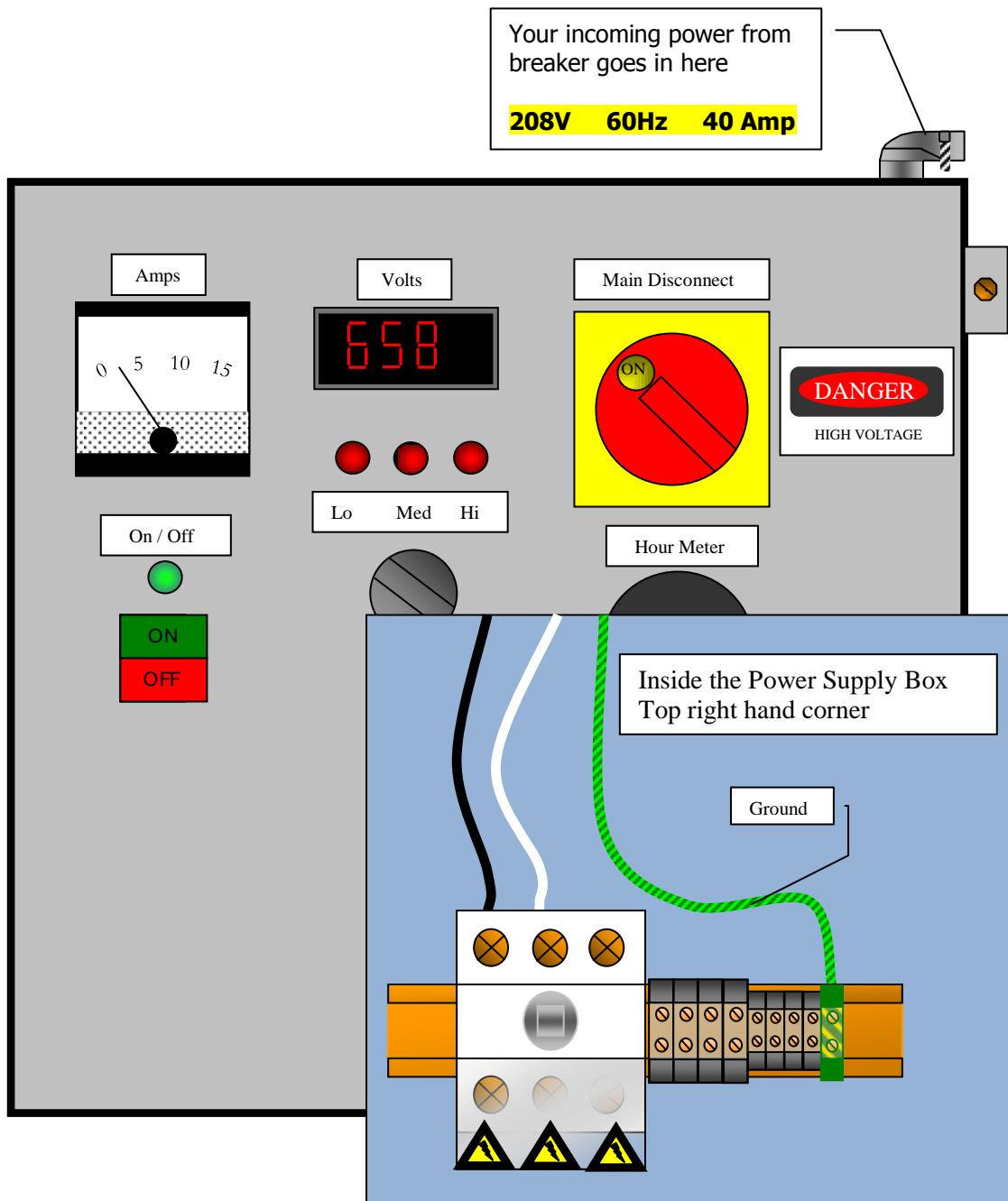
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**ANY LIABILITY FOR CONSEQUENTIAL AND INCIDENTAL DAMAGES IS EXPRESSLY DISCLAIMED.  
CON-TROL-CURE's LIABILITY IN ALL EVENTS IS LIMITED TO, AND SHALL NOT EXCEED, THE PURCHASE PRICE PAID.**

All risk arising out of the performance of this unit remains solely with the Buyer. In no event shall Con-Trol-Cure be held liable for lost profits, lost savings, incidental or direct damages or other economic consequential damages regardless of any statement, expressed or implied, of such liability by Con-Trol-Cure employees or any of its authorized agents. In addition, Con-Trol-Cure and its suppliers will be held harmless for any damages claimed on behalf of any third party.

# Power Supply Wiring

\*For detailed wiring information; refer to the electrical schematic inserted after this page.



## To access the inside of the power supply cabinet:

Turn main power switch/disconnect to Off. (Door will not open if in On position)

Loosen two spring clip holders on right side of door. Push in on door to relieve tension on clip and slide clip to the right so it is no longer engaging the door frame. Open the door. NOTE: There is an extension rod that joins the front panel switch dial to the actual switch on the back panel. Be careful not to bump into this rod. Doing so may cause it to no longer align properly to the switch dial on the door. If you do accidentally bump this out of alignment, you can gently bend it back to the correct location. Door will not close if not properly aligned. Door will not close if switch is in Off position but dial is not.

## Installing the UV Lamp in the Lamp Housing

**Do not touch the lamp with bare hands;** always wear cotton gloves or hold using cotton pads. Natural skin oils will permanently burn/etch into the surface of the quartz tube when lamp is turned on. This may potentially cause premature failure of the lamp.

Loosen the two knurled knobs on each of the lamp holders and swing the top plates to one side. Insert lamp first through the side reflector that has only a hole in it, and then lower the other side of the lamp down through the slotted reflector.

Once the lamp is in place and the ceramic ends are resting in the V shaped holders:

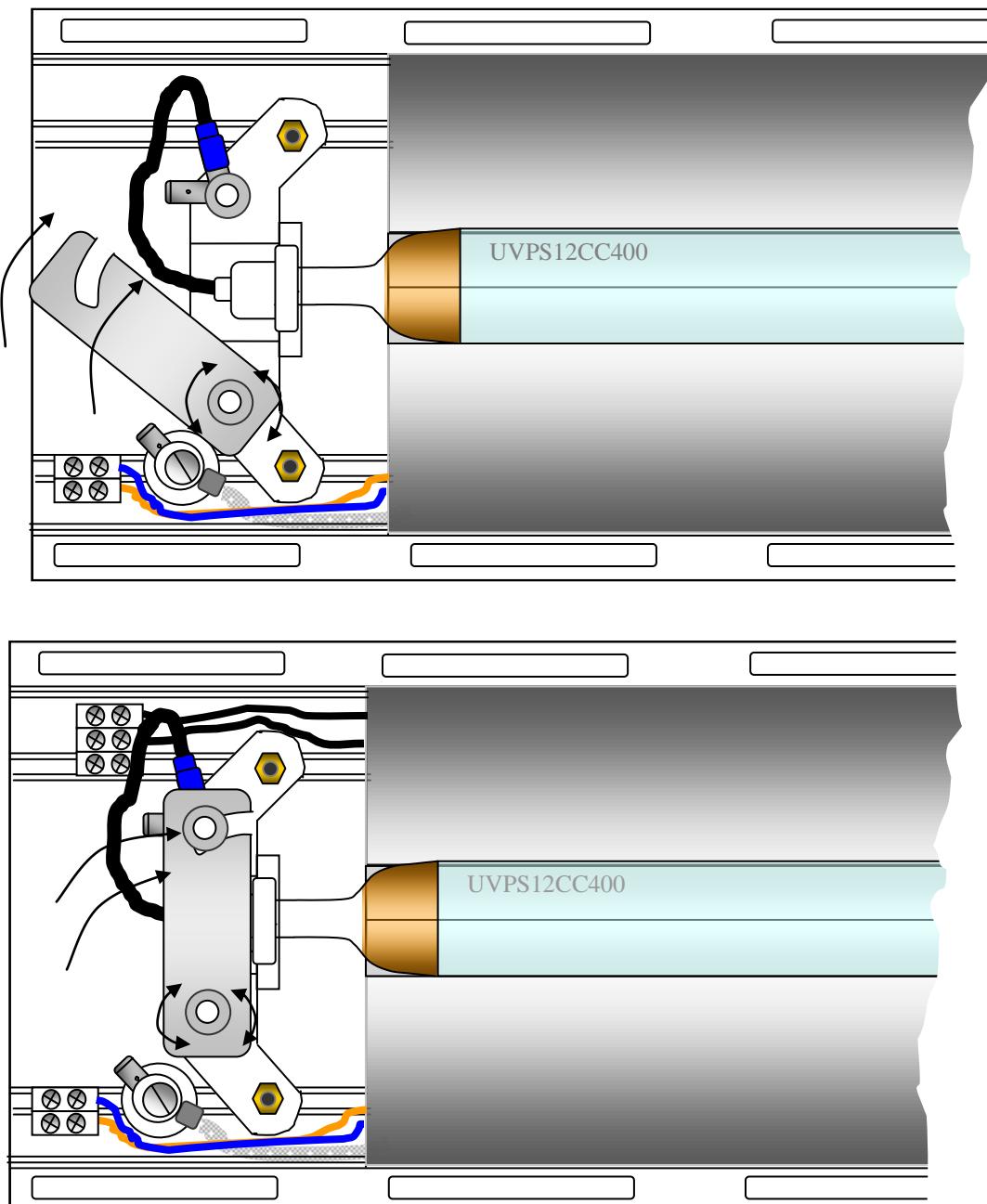
Swing the top plate over the lamp ceramic, and under the thumb screw. If you cannot get the plate under the thumb screw because you are hitting the ceramic, loosen the opposite thumb screw more.

Gently tighten both thumbscrews only enough to secure the lamp in the holder. Over-tightening can crack the ceramic.

**NOTE:**

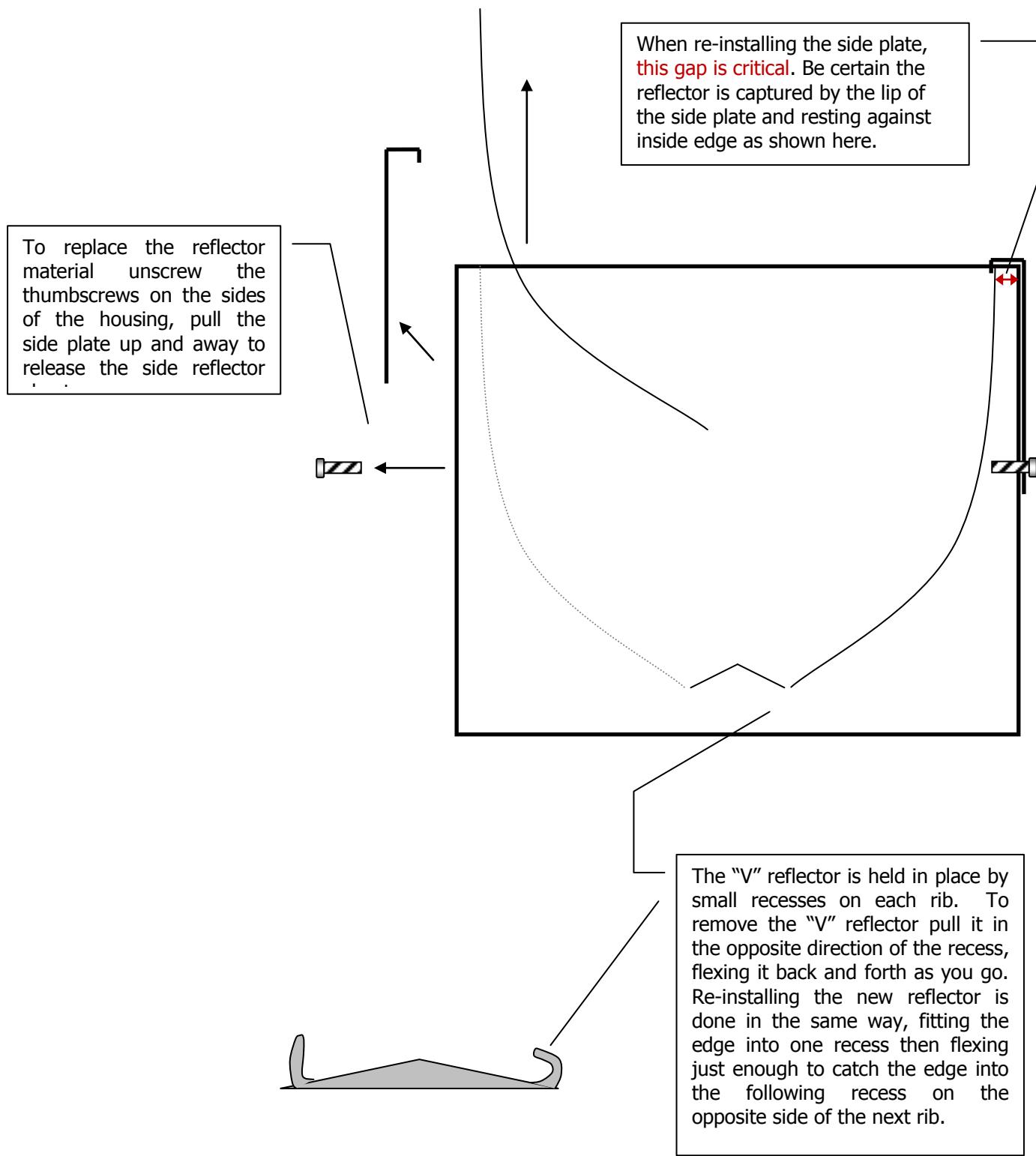
Our lamps connections have recently changed. In your lamp housing, they have a spade connector on the lamp wire which will connect directly to another wire with the mating spade connection. The graphic shown here is for an older style connection.

If you are having difficulty making the connection, removing one of the side guards makes this process much easier. See the next page regarding "changing reflectors" for instructions on side guard removal.



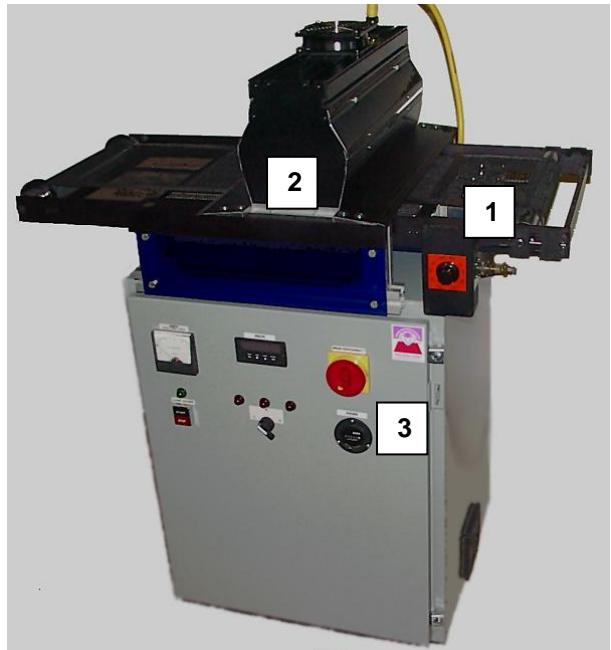
## Replacing the Reflector Materials in the Lamp Housing

**NOTE:** Replacement reflector material has a protective plastic sheet that must be removed prior to installation. Failure to remove plastic will result in damage to the Lamp housing and create a potential risk of fire.



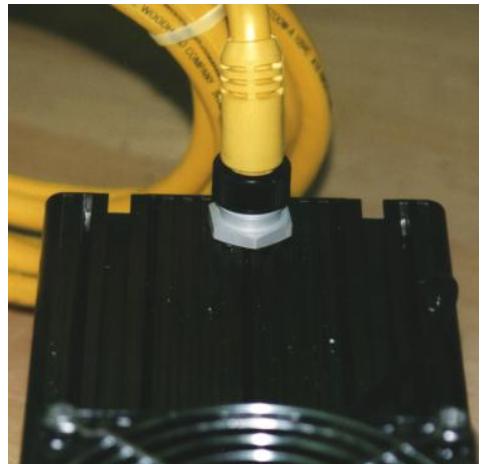
## Orientation:

1. Conveyor Drive Section
  - a. Drive Roller
  - b. Belt Tension Adjustments
  - c. Belt Speed Control
  - d. Conveyor Power Connection
2. UV Curing Section
  - a. UV Lamp Housing
  - b. Lamp Power Connection
  - c. Light Guards
3. Integrated Power Supply/Base Section
  - a. Main Power Disconnect
  - b. Hour Meter
  - c. Volt Meter
  - d. Ammeter
  - e. Lamp Power Selector (Low, Medium, High)
  - f. Lamp Start/Stop



## PREPARING FOR USE

After lamp is properly installed in the lamp housing and lamp housing is returned to the top of the UV Conveyor. Connect Yellow lamp cable to the Lamp housing as shown.



Also connect Conveyor Power Cable to conveyor as shown here.



**WARNING**

THIS LAMP EMITS HIGH INTENSITY ULTRAVIOLET LIGHT AND INTENSE INFRARED HEAT. IT IS DESIGNED SPECIFICALLY FOR INDUSTRIAL APPLICATIONS. THE USER MUST TAKE APPROPRIATE PRECAUTIONS TO PROTECT EMPLOYEE'S NEARBY. USE UV-PROTECTIVE EYEWEAR AND CLOTHING WHEN IN OPERATION. **NEVER** LIFT LAMP HOUSING OFF OF THE CONVEYOR WHEN UV LIGHT IS ON.

**IMPORTANT**

THE USER IS FULLY RESPONSIBLE FOR ESTABLISHING SAFEGUARDS AGAINST HARMFUL ULTRAVIOLET LIGHT EXPOSURE AND OTHER ASSOCIATED HAZARDS.

UV radiation can cause severe burns to eye and skin. Looking directly at an operating UV light should be avoided at all times. Wearing sufficient shielding and following safety practices are your most effective protective measures.

OSHA requires employers to make available and require employees to wear suitable eye and face protection where eye injuries may occur. In order to help comply with OSHA requirements and to provide safety for your personnel, we offer an array of safety glasses and filter materials which were carefully selected for the needs of UV applications.

## POWER SUPPLY CONTROLS AND FUNCTION

**Main Power Disconnect ON/OFF:** Turns on or Shuts off electrical connected to power supply – (Includes safety lock which prevents power supply cabinet from opening while power is in ON position). When on, conveyor will automatically start - conveyor must always be in motion before UV light is activated.

**Start/Stop w/indicator light:** Two-position push button switches LAMP power ON (Start/green button) or OFF (Stop/red button) to end. When green indicator light is ON, power is ON to the irradiator. Power must be turned ON at the Main Power ON/OFF switch for this secondary LAMP switch to work.

**Ammeter:** Meter indicates real-time amperage draw being used by the power supply / lamp.

**Lamp Voltage Interface:** LED displays numerical level of electrical current. Interface permits input of high and low presets to warn user if lamp is drawing energy in excess or below levels required to produce the desired cure.

[The Lamp Voltage Interface is integrated parallel to your curing equipment's power supply and irradiator to provide continuous feedback of voltage level during operation. Interfaced with a high impedance panel-mount volt meter, the LVI provides a numerical power reading of lamp energy draw. The operator can use this numerical value to determine when a lamp stabilizes and is ready for use. This numerical value is critical in establishing an initial baseline after installing a new lamp.]

As the lamp degrades over time, or if air flow (cooling) within the housing inadvertently lowers lamp temperature, the lamp will draw less energy. As a result, the LVI's numerical reading will be less than its initial baseline. This indicates the lamp is drawing less power and may be performing at less than peak efficiency.

By noting this change in numerical values, you can quickly cross-check this variance through physical cure evaluation before under-cured product is generated. If the tested product fails to cure at this numerical value, you can eliminate the inefficiency by cleaning or changing the lamp, by cleaning or changing the reflector, by increasing power, or by changing air flow characteristics.]

**Hour Meter:** Counter displays number of hours the power supply has been in operation.

**Power Level Selector w/indicator lights:** Three power Levels; Low, Medium, and High. Each Level has a red light level indicator for easy reference at a distance. One light = Low power, Two lights = Medium, Three lights = Full power.

## BASIC OPERATION

### **Please review this entire manual prior to first use.**

Do not attempt to operate this UV curing equipment until you have a thorough understanding of all the components, controls, and procedures.

**!! IMPORTANT:** UV radiation can cause severe burns to eye and skin. Use protective materials (goggles, glasses, lotions) to ensure personnel safety. Install UV Safety Shielding as deemed necessary to isolate the UV system and to prevent accidental UV exposure. Proper maintenance procedures, including maintaining an inventory of spare lamps and reflectors, should also be practiced in order to ensure maximum efficiency and to prevent costly downtime.

**NOTE:** Be certain to allow unobstructed air flow from above the lamp housing so the fan can draw in cooling air from the room. Also, there are hot air exhaust ports on the bottom of the housing which should not be blocked. Use same precautions with the fans and air intake ports for the power supply.

### **Before first use please check the following:**

- Appropriate power has been provided to the power supply connections as indicated in the schematic.
- Packing materials have been removed from underneath the conveyor and inside of the lamp housing.
- Lamp has been installed and lamp housing is properly positioned on top of conveyor.
- Yellow high power cable is connected to lamp housing and also DC power cable for conveyor.
- All fans and vents are free and clear of any obstructions.
- Front door of power supply cabinet is secured with latch screws tightened.

#### **1. Switch Main Power Disconnect to “ON”**

- a. Conveyor belt should now be running, adjust belt speed as desired.

#### **2. Press Green Start Button to activate UV Lamp.**

- a. Allow lamp to warm up and power to stabilize.
- b. Fastest warm up will occur if done at high power.
- c. After warm up you can reduce the output power as desired.
- d. A slight ozone odor may be noticed during initial startup until the UV bulb reaches full operating temperature.
- e. Lamp cooling fan is on a delay timer factory preset for one minute. If lamp is taking too long to stabilize, increase this timer setting one minute at a time and observe if next start up is faster. Setting this timer too high may result in the lamp housing overheating resulting in lamp shutting down, or possibly even reflector aluminum melting. Timer can be found within main power supply. Refer to electrical schematic for location.

#### **3. For short idle periods without production (less than 15 minutes)**

- a. Change lamp setting to low power.
- b. This helps reduce heat build up with conveyor and extends belt life

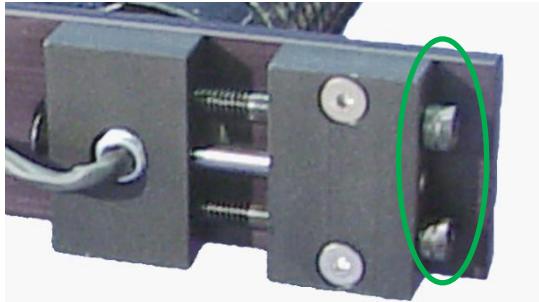
#### **4. When finished using UV system, first shut off lamp by pressing Red Stop Button.**

- a. Allow conveyor to run for several minutes while lamp is off so belt and lamp cool prior to turning off main power.
- b. Not allowing cool down period may result in belt damage. There is significant IR energy emitted from the bulb and that heat is still present because the quartz lamp during operation reaches temperatures in excess of 500 degrees C. Much of that temperature remains within the quartz when lamp is first shut off, and the lamp gradually cools.
- c. Cool down may take up to 15 minutes prior to being able to restart lamp again. Lamps cannot hot re-strike.

## Belt Tensioning Adjustment

The belt is preset at the factory for proper tension and tracking. Through normal use, heat will cause the belt to expand and therefore it may need to be tightened slightly to maintain tracking. **Do not over tighten.** Excessive tension will stretch the belt, and also cause additional strain against the Drive Roller Motor, resulting in a potential premature failure of the belt and/or drive roller.

**NOTE:** Belt guide collars have been added to extend belt life and guard against edge damage due to poor tracking. The guides should not be exclusively relied upon as a substitution for proper tracking alignment.



### To adjust tracking:

Locate the double Allen screws on the ends of the tensioning adjusters. (There is a pair on the left and right side of the conveyor)

On the side the belt is drifting towards; turn either one of the two screws clockwise to tighten the belt on that side. This forces the belt back the other way. Make small adjustments to avoid over tensioning. You may want to manually slide the belt to center first, and then make an adjustment. This prevents over adjusting.

Once the belt is tracking stable, carefully turn the second screw clockwise until it seats into the adjuster at the same amount as the first screw. Be careful not to over tighten because this will further adjust the roller, which in turn will put slack in the opposite screw. The purpose of

the second screw is to secure the roller so that the belt tension and vibration does not cause the roller to travel backwards (loosen) on its own.

### Changing the Belt

To remove the belt, loosen all four adjusting screws (counter-clockwise) until the roller is at its closest point toward the lamp housing. Locate the metal splice on the belt (looks like a zipper). There is a wire pin interwoven through this splice. Simply slide the pin completely out (either side) and the belt will separate.

Reverse the process for putting on a new belt. Always tension the belt evenly and lightly. Over tensioning a new belt will cause it to stretch quickly especially when heated by the lamp for the first time. This can cause premature failure of the belt, and/or create stress cracks in the edge seams.