

UV Lamp and Reflector Maintenance



We have divided UV system maintenance into two areas depending on the application

- **Digital inkjet printing style lamps**
- **Screen printing and label curing lamps**
- **Digital Inkjet lamp maintenance**
- **UV system terminology**

Inkjet printers use one or two UV systems depending on machine design. Each system has these common components.

- **Lamp housing-** normally mounted on one or both sides of printing carriage. This assembly contains the UV reflector, cooling apparatus, mechanical shutter and quartz isolation plate (optional). Most of these components are permanent in nature requiring periodic cleaning.
- **UV lamp (bulb)-**heart of your curing system. This is the main consumable item responsible for ink curing.

Taking care of your printer's curing system is an easy way to reduce machine costs. Most inkjet UV lamps are air cooled hence they must live with whatever air is provided. Lamps must be kept clean, free of dust, powder, grease, smoke and misting ink. Often, shop contaminants will blow over the lamp sticking to the quartz literally baking onto the surface. This reduces UV energy and may cause bulb overheating.



Bulbs and reflectors require inspection every 150 hours of operation. If lamp has external contamination or reflector surface is dull, clean immediately! Use a lint free cloth with Windex or Simple Green to clean. Do not waste your money on special UV lamp cleaners as they have dubious value! If solvents are permitted, use isopropyl alcohol. For extreme cases, use a mild abrasive such as Soft Scrub to clean the UV lamp. Be sure to rinse any residue off the glass before reinstalling lamp.

The same cleaning schedule applies to the quartz plate utilized in many systems. To maximize curing efficiency, keep your system clean. TCS Technologies offers replacement quartz plates at a fraction of the OEM component.

Most inkjet manufacturers have their own proprietary curing system design. The hope is to maintain replacement parts business. This does not mean every quartz plate, filter or replacement UV lamp is only available from the OEM. Search the internet; you will discover companies offering alternative components at a discount.

Most lamp housings incorporate one or two cooling fans to maintain bulb temperature. Most have a filter screen to prevent dust and dirt from being blown onto the UV bulb. Regularly clean the filter to maintain cooling efficiency. The higher the bulb power, the

more heat created. Most lamp assemblies have a thermal safety switch. This shuts off the UV lamp in case of excess temperature. Clean the screen or replace it regularly. Environmental factors (shop-air, etc.) can accelerate filter clogging.



Some printers use an all-in-one cassette system containing both the lamp and reflector. The only way to purchase a new lamp from the OEM is replace the entire assembly. Rather than replace the entire cassette, TCS Technologies will clean your existing cassette and install a new UV lamp for a cost savings 60% or more. We polish the reflector, remove any ink or dust deposits, recycle your old lamp and install a brand new TCS Technologies UV lamp. Typical turnaround at our

facility is one day. This minimizes downtime while maximizing savings.

Maintaining your UV inkjet assembly is not complicated or time consuming. The rewards are immediate and benefits long lasting.

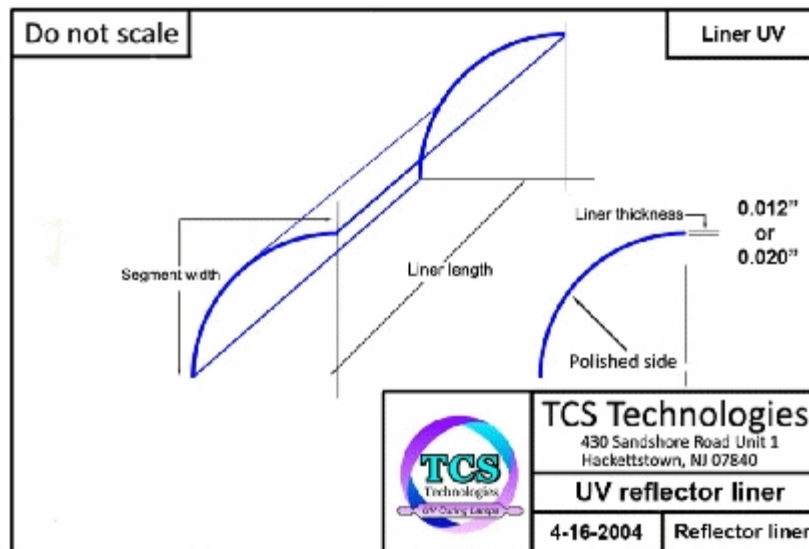
Screen printing and label curing lamp maintenance

Screen printing and label curing lamps tend to have longer arc lengths than digital inkjet lamps however much of the maintenance is the same.

The majority of UV curing lamps are air cooled hence it is imperative to use filtered air to keep UV system running efficiently. Dust, misting ink and a hot UV lamp is a recipe for disaster, reducing UV energy and shortening lamp life.

A small investment in cleaner cooling air will go a long way reducing maintenance costs.

Bulbs and reflectors should be inspected every 200 hours of operation. If lamp has external contamination or reflector surface is dull, clean immediately! If solvents are permitted, use isopropyl alcohol, otherwise Windex or Simple Green applied with a lint free cloth will work fine. For longer arc lengths, we suggest slightly rotating lamps with every cleaning. If your system has mechanical shutters, this is also a good time to inspect air-lines, pneumatic cylinders and all parts common to shutter operation. **Always allow lamp to cool and disconnect all power prior to any cleaning.**



Should your reflector be beyond repair, we offer 2-foot by 4-foot sheets of enhanced UV reflector stock. These sheets are easy to cut and form and have a higher UV reflectance than most OEM system reflectors. Two reflector thicknesses are available 0.012" and 0.020". Formed reflector liners are also available. Normally the 0.012" thick material is used as an insert to slide into an aluminum extrusion. See drawing for required information.

In this economy, savvy companies are trying to stretch cash outlay and bolster their bottom line. Maintaining your UV curing system is not complicated or time consuming. With proper care your UV system will provide years of productive operation.