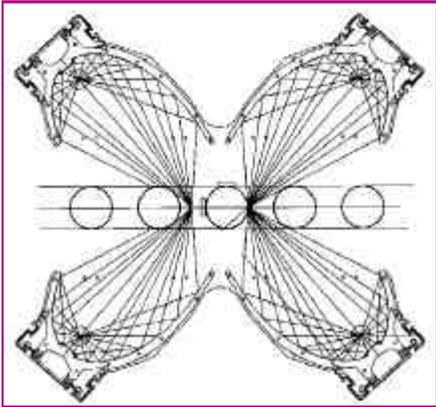


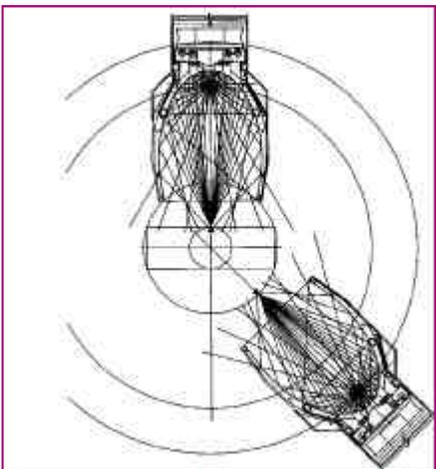


# LIGHTHOUSE™ VL UV Curing Systems

Highly focused UV curing designed exclusively for three-dimensional liquid and powder coating applications



Lighthouse™ UV Lamp Housing w/10" Focus 7/8 Ellipse Reflector



Lighthouse™ UV Lamp Housing w/10" Focus 7/8 Ellipse Reflector



### APPLICATIONS FOR 3-D CURING

The use of UV curable liquid and powder coatings offers significant production efficiencies and cost savings, particularly for three dimensional products which can be coated at higher rates of speed and in significantly less floor space than with infrared coating systems. Users preparing for a transition to UV curing have expressed their concern in finding reliable and cost effective UV curing alternatives.

Curing systems using half ellipse reflector design offer less than a one inch depth of field for 3-D curing, as a result, to be successful 3-D installations using these systems require banks of lights to deliver adequate energy levels and uniformly cover a 3-D curing area, and generally must operate with lamps of higher wattage.

UVPS believes that uniform curing of three dimensional product requires a departure from the narrow focused, half ellipse systems originally designed for two dimensional curing. To uniformly and economically cure a wide range of 3-D product a useable level of curing energy must be focused with a depth of field as wide as possible. UVPS began with its higher efficiency, 3/4-ellipse reflector technology and added a variable length reflector system. By varying the length of the curing energy focus the light within the UV lamp is initially reflected in wider angles resulting in a more vertical concentration of energy below the lamp in the curing zone. This concentrated focus and the 20% increase in energy delivered by UVPS curing systems combine to give optimal conditions for 3-D curing. (Diagram #3 10" focus housing) The accompanying diagram shows a UVPS lamp using a variable length reflector to achieve a 10" energy focus. By extending the focus the curing depth of field has been increased to more than five inches (more than four inches greater than a half ellipse reflector system). Using the variable length reflector system a

curing system can be constructed with a specific depth of field to deliver maximum curing energy custom suited to a customer's application.

### A FEW APPLICATIONS

For applications where higher than normal power levels are required UVPS curing systems can be installed in tandem using asymmetrical reflectors to focus the energy of two lamps onto a single curing point. In this way the effective curing wattage is doubled, for example, if each lamp is delivering 750 watts/in. a tandem system will uniformly deliver 1500 watts/in.

For high speed conveyor applications a four lamp installation with asymmetrical reflectors can cure simple 3-D objects at extremely high rates of speed without the need to rotate the product as it travels through the curing zone. UVPS has successfully field tested this application on an aluminum can coating line running at over 1,300 cans per minute. It is also interesting to note that only 2" of space between cans was required for complete curing to be accomplished.

For the curing of intricately shaped or larger products an installation of two lamps positioned around a point of rotation can be used. The two lamps are positioned with staggered focuses so that the entire product is covered with a adequate level of curing energy. This staggered focus application is also well suited to product with sides of uneven dimension, or product with complex shapes requiring curing on several planes.

Because of its unique flexible reflector system UVPS can also offer special application curing systems that deliver an unfocused curtain of curing energy using a parabolic reflector in place of standard elliptic focusing reflector. Product of large size or small quantity can be ideal candidates for this special curing application.

## 24-HOUR PRODUCT SERVICES

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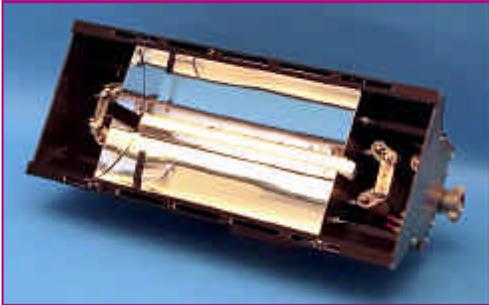
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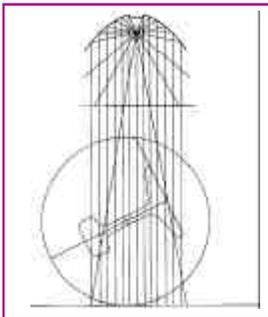


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Lighthouse™ Parabolic  
UV Lamp Housing



## LIGHTHOUSE VL SYSTEM FEATURES

*Maintaining optimal lamp temperature* - If a lamp's operating temperature is allowed to fluctuate its efficiency can be significantly affected. Changing temperatures will vary the amount of vaporized mercury within the lamp and, as a result, the amount of available curing energy. Small changes in the energy level delivered to the product can significantly effect the completeness of the cure. The UVPS reflector system is uniquely designed to stabilize temperatures by reflecting less energy directly back toward the lamp. The light weight reflector material together with its ribbed supports allow heat to radiate away from the lamp area. The open architecture of the lamp housing itself permits unobstructed air flow through the entire housing.

*Easy to install* - The UVPS lamp housing extrusion has "T" slots on three sides which accept the heads of 1/4" screws. The slots run the complete length of the housing. This built-in mounting feature simplifies lamp housing mounting on both new and retrofit installations.

*Easy to maintain* - The UVPS lamp housing has been designed for easy replacement of both lamps and reflectors. Since the reflector accounts for 60% of the energy focused for curing it must be well maintained and replaced at the first signs of deterioration. Unlike other systems that require significant disassembly for reflector changes, the UVPS reflectors can be changed in less than five minutes by simply removing the two screws holding the side shield and sliding out the old reflector and sliding in the new. Lamp changing is likewise simple and quick.

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