TECHNOTES

FUSION UV SYSTEMS, INC.

Light Hammer® 6
Irradiator Selection Guide

The Light Hammer® 6 UV curing system offers a variety of irradiator choices depending on housing material, air inlet position, intended cycling, and power level operation. This guide can help you determine the appropriate irradiator based on your processing needs. If you are still unsure, or your process doesn't seem to fit into any of the situations described, please call us to discuss which irradiator may work best for you.

Like all of Fusion UV's curing systems, the Light Hammer® 6 irradiators allow simple bulb changes in minutes. Clean filtered cooling air is positively pressurized through the irradiator and exits through the reflector cavity. This ensures that any contaminants, such as dust or vapors do not deposit onto the bulb or reflector. Irradiators can be placed in any orientation, as is often the case for curing three-dimensional parts. They can also be placed end-to-end for uniform wide curing, or turned on independently to save energy costs (for example, narrow width runs on wide systems).

The standard bulb spectra are available: "H" spectral distribution is suited for clearcoats and varnishes; the "D" spectral distribution is popular and proven for inks and thick coatings or adhesives; and the "V" distribution is effective in the UV curing of white basecoats, through laminating materials and in other specialty applications.

Light Hammer® 6
Irradiator Selection Guide

Use the LH6 Irradiator Selection Table and follow the steps below to select the irradiator that's right for your process.

LH6 Irradiator Selection Table

Irradiator Model	Housing	Air Inlet (3" collar)	Recommended Power Supply Setting	Cycling	Recommended Duty Cycle
I6P1	Aluminum	Top	80-100% (typically)	None	N/A
I6P3	Aluminum	Side			
I6S	Stainless Steel	Side			
I6B	Aluminum+ Modular Blower	Top-mounted			
I6P1LH	Aluminum	Top	25-100% VFD kits available	None or Rapid Cycle*	50-100%
I6P3LH	Aluminum	Side			
I6SLH	Stainless Steel	Side			
I6S/ULC	Stainless Steel	Side	25-100%	Rapid Cycle*	30-50%

+ The housing over the modular blower is made of black thermoplastic material.
* Operating the lamp at full power for longer than six-second durations with reduced air cooling may lead to bulb overheating. Fusion UV recommends a permanently mounted pressure gauge to monitor and maintain differential pressure in the recommended range. See system manual for additional details.

First, do you need a stainless steel or aluminum housing? Stainless steel is typically chosen for clean room applications. However, note that the stainless steel housings are only available with a side air inlet.

Second, determine where the air inlet needs to be, top or side. This will depend on how the systems will be oriented and the location for ducting on the processing line or in a machine such as a printing press. If you prefer not to use a remote blower for cooling air, the I6B has an aluminum housing with a modular blower on top.

Third, determine what power level the system will operate and whether the system needs to cycle on/off. The Light Hammer® 6 system can operate at a power level from 25 to 100% input power. If the system will operate continuously at power levels above 80%, then choose the I6P1, I6P3, I6S or I6B (yellow block).

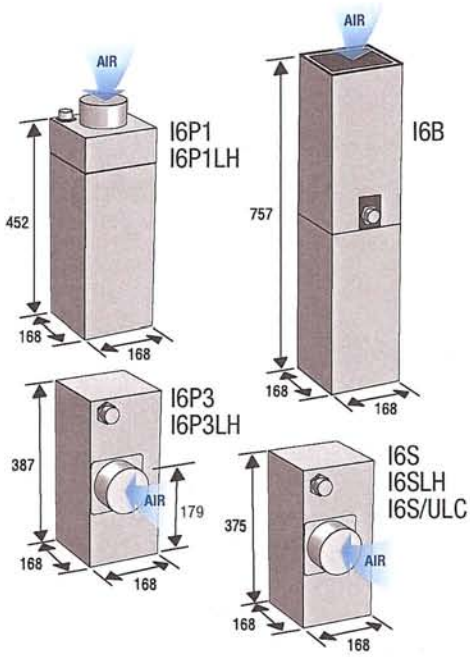
If the system needs to operate continuously at power input levels from 25-80%, then choose the I6P1LH, I6P3LH or I6SLH (orange block). Less cooling air is needed for extended reduced power operation and we recommend use of an optional variable frequency drive (VFD) to automatically adjust cooling air.

Some of the irradiators can operate in Rapid Cycle mode, which provides an "electronic shutter" to turn the lamp on and off rapidly. In Rapid Cycle mode the recommended shortest ON or OFF time is one second and the longest ON or OFF time is six seconds. This can be ideal for some indexing type operations. If you need to operate in Rapid Cycle mode, then calculate what the Duty Cycle will be. The Duty Cycle is the percentage of the lamp on-time to the total on-and-off-time. For example, if the system will operate with the lamp on for 5 seconds and off for 2 seconds, then the Duty Cycle will be 71%.

If the Duty Cycle will be 50-100%, then choose the I6P1LH, I6P3LH or I6SLH (orange block). If the Duty Cycle is 30-50%, then choose the I6S/ULC (ultra low cooling) (green block).

All of the irradiators can be set to operate in Quick Restart Mode (QRM) if desired (I6S/ULC comes pre-set in QRM from the factory). QRM allows the lamp to operate in a low output mode (about 3%) for up to 60 seconds. The lamp can be rapidly restarted at any time during this 60 second period. This eliminates the 18-second restart time associated with routine operation. While QRM is not intended for use as a shutter in repetitive processes, it can be useful in the event of short process interruptions. Additional details are available in the system manual.

NOTE: Power supply settings represent % of full input power to the irradiator. For UV output power, as a % of full output, either refer to measurements or tables of % output vs % input.



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