

FUSION UV SYSTEMS, INC.

LIGHT HAMMER®

10

New
Technology

The Light Hammer® 10 brings all the benefits of microwave-powered UV curing to a ten-inch (250 mm) system with some exciting new features that will enhance your productivity

Operating in the power class of 600 watts/inch, the Light Hammer 10 features two easy-to-service modular components: the microwave-powered irradiator and the solid-state power supply. At the heart of Fusion UV's technology is the electrodeless bulb mounted in an elliptical reflector for focusing an intense strip of light 53.3 mm (2.1 inches) below the face of the lamp. Offering many advantages over traditional drying methods, our systems have been shown to increase production speed, reduce reject rates, improve scratch and solvent resistance, and facilitate superior bonding.

Higher Efficiency from the Solid-State Power Supply

Each lamp system has its own microprocessor-based, modular power supply. The high voltage circuit inside the power supply consists of a solid-state, switching engine. This reduces ownership costs because it extends the life of the magnetron and the bulb by supplying a constant DC source of power to the lamp. The solid-state electronics run cooler and more efficiently – saving money on power, reducing environmental noise and space requirements. Power output from 35% to 100% can easily be

controlled from the front panel or remotely through a PLC (programmable logic controller). This variable power feature permits matching of the lamp output to the machine/line speed or to the ink/coating demands.

Built-In Communications Software

Utilizing DeviceNet™, our sophisticated control system allows multiple lamp systems to be interconnected and controlled individually or as a group. It also allows the collection of system operation data that will enhance preventative maintenance and line productivity.

Improved Cure

The ultimate benefits of the Light Hammer 10 are the achievement of higher degrees of conversion, higher speed and better depth of cure than is typically achieved with other UV sources.



Light Hammer® 10
Irradiator Model LHI10 and
Power Supply Model LHP10

hundreds of demanding applications. These long life bulbs are known for their stable performance, high intensity and low maintenance operation.

Fast UV Curing from High Peak Irradiance and Low Infrared

The small diameter bulb combined with the elliptical reflector provides high peak of UV irradiance for high-speed cure. The small diameter bulb also reduces infrared emission resulting in lower surface temperatures of the substrate, thus eliminating the need for complicated heat removal methods.

Popular Bulb Spectra Available

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.

**Reduced cost
of ownership
and improved
efficiency**

Electrodeless Technology

The microwave-powered lamp and its electrodeless bulb technology have proven themselves over time and in

Ultraviolet (UV) curing is a photochemical process in which high intensity UV is used to instantly cure inks, coatings or adhesives in a wide range of industries.

SPECIFICATIONS

System Designation

System Designation: Light Hammer 10

Power Supply: LHP10

Irradiator: LHI10

Available Input Voltages (50/60 Hz) Three Phase:
380 VAC, 415 VAC, 480 VAC

System Ambient Operating Temperature:
0-50 degrees Celsius

Relative Humidity: 30-95%, non condensing

Altitude: 0-1000 m

Mobility: Stationary position

LH10 Communication Bus – complies with DeviceNet™ specifications for a DeviceNet™ Slave

Transmission Media: DeviceNet™

Configuration: Two twisted pair wires (24 V dc power and signal) plus drain in one cable

Theoretical Bus Capacity: 63 nodes per Master controller

Data Rates: Max Cable Length (Drop & Trunk)

	Thin Cable*	Thick Cable	Flat Cable
500 kb/s	100 m	100 m	75 m
250 kb/s	100 m	250 m	200 m
125 kb/s	100 m	500 m	420 m

* Only Thin Cables are available from Fusion UV Systems. Other types of cables can be purchased from other manufacturers of DeviceNet™ media.

Power Supply Model LHP10

Mag Current @ 100% Power: 890 mA/Mag

Output Range: 35% to 100%

Input Voltages: 380 VAC, 415 VAC, 480 VAC (50/60 Hz)

Max Line Current for 380-480 V version:
18 Amps maximum

Dimensions (W x H x L): 420 mm x 219 mm x 797 mm (16.55 in. x 8.62 in. x 31.4 in.)

Weight: 46.4 kg (100 lbs.)

Rear Clearance: 305 mm (12 in.)

Stackable: Maximum of six units

Enclosure Rating: IP20BH (NEMA 1)

Enclosure Finish: Textured polyurethane enamel

Line Power @ 100%: 12 kVA, 8 kW

Irradiator Model LHI10

Output @ 100% Power: 600 W/inch

Weight: 16 kg (35 lbs.)

Dimensions: Same size as 1600M type

Minimum Cooling at 100% Power:
8.2 m³/min. @ 2250 Pa (290 scfm @ 9.0 in. w.c.),
1600 – 2000 Pa (6.4 – 8.0 in.) inside the Irradiator

Reflector Geometry: Elliptical (with bulb at focus)

Substrate Location: 53 mm (2.1 in.) from face of lamp, for maximum irradiance

Mounting Position: Any angle with respect to vertical

Footprint: 266.7 mm x 200 mm (10.5 in. x 7.87 in.)

Exhaust: Recommend 130% of the nominal volume of cooling air be exhausted

Housing Collar: 152 mm (6 in.)

System Features

Features	Advantages	Benefits
Solid State Power Supply	Greater Efficiency	Lower cost of ownership Longer life of internal components
	Lower Ripple	Stable Bulb Output
	Reduced Magnetron Stresses	Improved Magnetron Life
	Lower Weight	Easy to move around
Irradiator	Improved Magnetron Control	Lower cost of ownership Longer Magnetron Life
Quick Restart Mode	Rapid Output Reduction	Automate product line while keeping bulb warm Eliminate costly mechanical shutters
Industrial Communication Protocol	DeviceNet™ slave	Standard hardware from multiple manufacturers ODVA controlled standards Computer Interface possible Capable of PLC control Monitor and control individual lamps



**FUSION UV
SYSTEMS, INC.®**

**FUSION UV SYSTEMS, INC.
Corporate Headquarters**

910 Clopper Road
Gaithersburg, Maryland
20878-1357 USA
301-527-2660
FAX: 301-527-2661
1-888-276-8600 (North American Toll Free)
www.fusionuv.com
e-mail: info@fusionuv.com

FUSION UV SYSTEMS WEST

Torrance, California
310-370-9920
FAX: 310-370-9152

FUSION UV SYSTEMS JAPAN KK

Tokyo, Japan
+81-3-5542-3980
FAX: +81-3-5542-3992

FUSION UV SYSTEMS

Spectris China Ltd.
Beijing, China
+86-10-6856-0808
FAX: +86-10-6802-9962
Guangzhou, China
+86-20-8756-8900
FAX: +86-20-8754-5144
Shanghai, China
+86-21-5385-5332
FAX: +86-21-6375-8139

FUSION UV SYSTEMS

Singapore
+65-6844-5538
FAX: +65-6844-5539

FUSION UV SYSTEMS, INC.

Alton, England
+44-1-420-544-516
FAX: +44-1-420-544-138

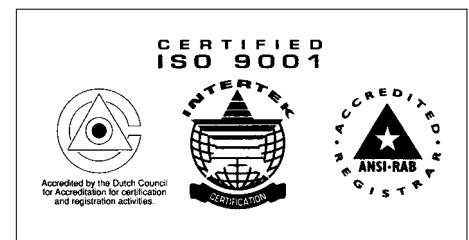
FUSION UV SYSTEMS, INC.

Martinsried, Germany
+49-89-899 631-0
FAX: +49-89-899 631-10

FUSION UV SYSTEMS, INC.

Maisons-Alfort, France
+33-1-56-72-16-20
FAX: +33-1-48-99-76-11

Corporate Headquarters Certification



U.S. Patent No. 3911318; 3872349;
3983039; 4042850; 4208587; 4359668;
4313969; 4269581; 4485332; 4507587
U.K. Patent No. 1482950
Japan Patent No. 1142145; 1130584
France Patent No. 7428765
Canada Patent No. 1024246
Other U.S. and Foreign Patents Pending.

We reserve the right to incorporate changes and improvements without notice.

10/03 Printed in USA SB 655

©2003 Fusion UV Systems, Inc.

The logo symbol, Fusion UV Systems, Inc. and Light Hammer are registered trademarks of Fusion UV Systems, Inc.