

Light Hammer® 10

The Light Hammer® 10 brings all the benefits of microwave-powered UV curing to a ten-inch (250 mm) system with exciting new features to 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 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 non-fluctuating 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. (Process patents: US 6908586B2 and US 7037460B2)

Electrodeless Technology

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

LHC10 DeviceNet™ Controller

The optional LHC10 Controller is a modular unit containing an LCD touchscreen for operator interface. The LHC10 collects and displays system data available on the DeviceNet™ communication bus. It is recommended for remote operation of multiple units. It supports up to three rows of twelve lamps each for a total of 36 lamps.

SPECIFICATIONS: Light Hammer® 10

System Designation

System Designation: Light Hammer® 10

Power Supply: LHP10

Irradiator: LHI10

Available Input Voltages (50/60 Hz) Three Phase:

200-240 VAC, 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.

Controller Model LHC10

Power: 100-240 VAC, 50/60 Hz, single phase, 206 W max.

Weight: 3.7 kg (8.1 lbs.)

Dimensions (W x H x L): 279 mm (10.97 in.) x 182 mm (7.15 in.) x 159 mm (6.24 in.)

Ambient Operating Temperature: 0 - 50° C

Ambient Storage Temperature: -10 to 70° C

Relative Humidity: 0 - 95% (non-condensing)

Mounting Position: Wall or panel mount

Clearances: Front: 305 mm (12 in.) for touchscreen, Rear: no clearance required, Left: 152 mm (6 in.) for inlet air, Right: 152 mm (6 in.) for cable access, Top: 152 mm (6 in.) for exhaust air, Bottom: no clearance required

Power Supply Model LHP10

Mag Current @ 100% Power: 890 mA/Mag

Output Range: 35% to 100%

Input Voltages: 200-240 VAC, 380 VAC, 415 VAC, 480 VAC (50/60 Hz)

Max Line Current for 380-480 V version:

20 Amps maximum

Max Line Current for 200-240 V version:

32 Amps maximum

Dimensions (W x H x L): 423 mm (16.6 in.) x 217 mm (8.6 in.) x 808 mm (31.8 in.) for 380-480 V, 819 mm (32.3 in.) for 200-240 V

Weight: 37 kg (81 lbs.)

Rear Clearance: 305 mm (12 in.)

Enclosure Rating: IP20 (NEMA1)

Enclosure Finish: Textured chemical resistant finish

Line Power @ 100%: 8 kW

Irradiator Model LHI10

Output @ 100% Power: 600 W/inch

Weight: 19 kg (42 lbs.)

Dimensions: Same size as I600M type

Cooling Requirements: 8.9 m³/min. @ 2750 Pa (315 scfm @ 11.0 in. w.c.) at irradiator inlet. 1600 – 2000 Pa (6.4 – 8.0 in. w.c.) 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: 267 mm x 200 mm (10.5 in. x 7.9 in.)

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

Housing Collar: 149 mm (5.9 in.)

System Features

Features	Advantages	Benefits
Solid State Power Supply	Continuously Variable	Variable Power output – from 35% to 100%
	Greater Efficiency	Lower cost of ownership
	Lower Ripple	Longer life of internal components
	Lower Weight	Stable Bulb Output
Irradiator	Improved Magnetron Control	Lower cost of ownership
		Longer magnetron life
Quick Restart Mode	Rapid UV Output change from full power to low power; and return to full power immediately on command	Quick system re-start after temporary interruption
		Eliminates need for costly mechanical shutters (not intended for continuous cycling)
Industrial Communication Protocol	DeviceNet™ slave	Standard hardware from multiple manufacturers
		ODVA controlled standard
		Computer Interface possible
		Capable of PLC control
		Monitor and control individual lamps

Contact your local Fusion UV office for an engineered solution for your specific requirements.



FUSION UV SYSTEMS, INC.®

Fusion UV Systems, Inc. Corporate Headquarters

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

Fusion UV Systems West

Torrance, California
+1 310-370-9920
FAX: +1 310-370-9152

Fusion UV Systems GmbH

Martinsried, Germany
+49 89 899631-0
FAX: +49 89 899631-10
www.fusionuv.de

Kolarovo, Slovakia
+421 911 748111
FAX: +421 903 494571

Fusion UV Systems

Singapore
+65 6844 5538
FAX: +65 6844 5539

Fusion UV Systems Spectris China Ltd.

www.fusionuv.com.cn
Beijing, China
+8610-59935827/28
FAX: +8610-59935999
Guangzhou, China
+86 20 8756 8900
FAX: +86 20 2887 3848
Shanghai, China
+86 21 61133698
FAX: +86 21 61133699

Fusion UV Systems

Japan KK
Tokyo, Japan
+81 3 5542 3980
FAX: +81 3 5542 3992
www.fusionuv.co.jp

ISO 9001 Certified QMS



• U.S. Patent No. 3911318; 3872349; 3983039; 4042850; 4208587; 4359668; 4313969; 4269581; 4485332; 4507587; 4868509; 5471109; 5726815; 6419743; 6419749; 6509656; 6626561; 6646384B2; 6690112B2; 6740892B2; 6908586B2; 7037460B2; 7055990B2 • U.K. Patent No. 1482950 • Japan Patent No. 1142145; 1130584; 1974504; 2704982 • 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.

01/08 Printed in USA BS 655 ©2008 Fusion UV Systems, Inc. The logo symbol, Fusion UV Systems, Inc. and Light Hammer are registered trademarks of Fusion UV Systems, Inc.