

Heraeus Noblelight Light Hammer 6 MARK II

Superior Technology and Unparalleled Service

Heraeus Noblelight is known for its superior UV curing technology and service capabilities. We invented microwave-powered UV curing technology over thirty-five years ago and today produce the most advanced UV curing systems available. Couple that with Heraeus Noblelight's unparalleled service capabilities and you'll understand why manufacturers, large and small, trust Heraeus Noblelight for their UV curing needs.

Continual Innovation and Improvement

- ▣ **Simplicity and flexibility in the controlscheme**
 - Via software versus traditional hardware
- ▣ **Ease of integration, high compatibility**
 - Backward compatible with existing LH6 installations
- **Increased uptime and reliability of product**
 - Minimization of unscheduled downtime
- ▣ **Multiple communication protocols**
 - DeviceNet™, Profibus®, EtherNet/IP™, Dry Contact, and "Plug & Play" options
- ▣ **Power Factor Correction**
 - Eliminate electrical harmonics, better than 99% at full load
- ▣ **Reduced weight and better air flow**
 - For more efficient cooling

The Light Hammer 6 MARK II brings all of the benefits of microwave-powered UV curing to a 150mm (6in.) system.

Operating in the power class of 500 watts/inch (200 watts/cm), the Light Hammer 6 MARK II features two easy-to-service modular components: the microwave-powered irradiator and the solid-state power supply. At the heart of the microwave technology is the electrodeless bulb mounted in an elliptical reflector for focusing an intense strip of UV energy 53 mm (2.1 inches) below the face of the lamp.

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.

Popular Bulb Spectra Available

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

Improved Cure

The ultimate benefit of the Light Hammer 6 MARK II is the achievement of higher degrees of conversion than is typically achieved with high ripple (AC) powered UV sources. (Patented)

Specifications: Light Hammer 6 MARK II

System Designations & Requirements

Available Input Voltages (50/60Hz): 200 V-480 V ± 10% auto-ranging.
System Ambient Operating Temperature: 0-50°C. **System Ambient Storage Temperature:** -40°C-70°C. **Power Supply:** LHP6 MARK II.
Altitude: 0-1,000 m.
Irradiator: I6 series.
Relative Humidity: 30-95% (non-condensing).
Mobility: Stationary, rack-mounted.
Environmental: Indoor use only.
Pollution Degree: 2.
Compliance: TÜV; CE.

Test Standards

Electrical Safety: EN 61010-1.
Emissions (CE): EN 55011 (CISPR-11) for Class A Group 2 device.
Immunity (CE): EN 61000-6-4; EN 61000-6-2; EN 61000-4-x.

Irradiator Models: I6P Series, I6S Series, I6 with Modular Blower (I6B)

Operating Voltage: Powered through the LHP6 MARK II power supply.

Exhaust: Recommend 130% of the nominal volume of cooling air.

Reflector Geometry: Semi-elliptical (with bulb at focus).

Mounting Position: Any angle.

Footprint: 168 mm (6.6 in.) x 168 mm (6.6 in.).

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

Magnetron Output @ 100% Power: 184 W/cm (467 W/in.).

Bulb Spectra Types Available: D, H, V.

Cooling: Cooling recommended at 100% operation (rapid cycling mode and reduced cooling excluded).

▮ **I6P Series and I6S Series:** 3.7 m³/min. (132 scfm). Test point pressure: 0.9 kPa (3.7 in. H₂O).

▮ **I6B and I6B MARK II:** Integral.

Cooling Air Requirement Filtered:*

▮ **I6P Series (I6P1, I6P1LH):** 1.4 kPa (5.5 in. H₂O) (top air inlet).

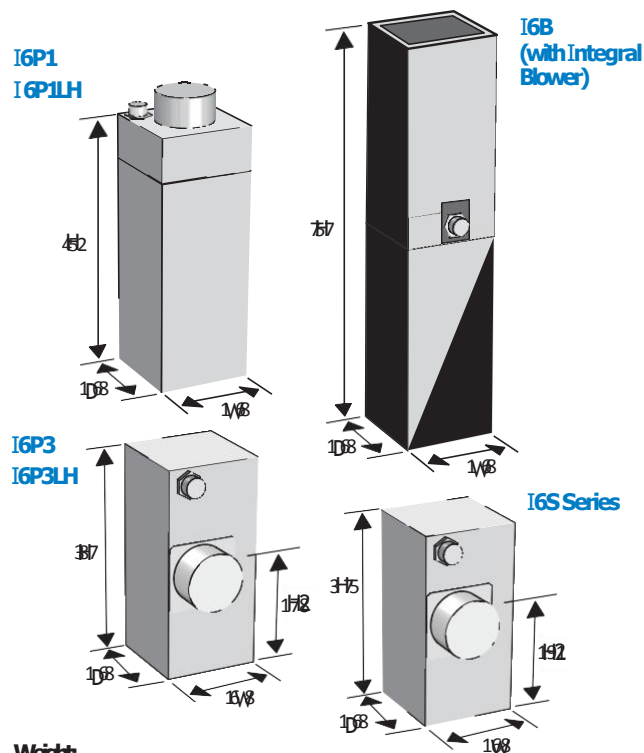
(I6P3, I6P3LH): 1.3 kPa (5.0 in. H₂O) (side air inlet).

▮ **I6S Series (I6S, I6SLH, I6SULC):** 1.3 kPa (5.0 in. H₂O) (side inlet).

I6B and I6B MARK II: Integral.

NOTES

*All I6 irradiator measurements assume 100% power and 100% duty cycle. If operating at different power levels or under rapid cycling conditions, please contact **Heraeus Noblelight** for the cooling air requirements.



Weight

▮ I6P1, I6P1LH: 9.7 kg (21.4 lbs.) (top air inlet).

▮ I6P3, I6P3LH: 9.1 kg (20.0 lbs.) (side air inlet).

▮ I6S, I6SLH, I6SULC: 10.8 kg (23.9 lbs.) (stainless steel housing).

▮ I6B: 13.1 kg (28.8 lbs.).

▮ I6B MARK II: 13.1 kg (28.8 lbs.).

LH6 MARK II — Power Supply Power Level Control Options

Method	Percent Control	Modes of Operation
DeviceNet™, Profibus®, EtherNet/IP™	1% steps	Remote/DeviceNet™, Profibus®, EtherNet/IP™ (additional module required)
4-20 mA input	1% steps, via master/slave operation	Remote/dry contact master/slave
0-10 V input	1% steps, via master/slave operation	Remote/dry contact master/slave
4-bit binary input	5% steps, via master/slave operation	Remote/dry contact master/slave
Front panel switched <small>Specifications subject to change without notice.</small>	1% steps, via master/slave operation	Local/front panel

I6B MARK II Blower Specifications

Weight: Part of lamp unit: 13.1 kg (28.8 lbs.).

Max. Dimensions (WxDxH): Irradiator/blower: 168 mm x 168 mm x 757 mm (6.6 in. x 6.6 in. x 29.8 in.).

Operating Voltage: Powered through the LHP6B MARK II power supply. **Ambient Conditions:** 45°C max. inlet temperature. 95% max. relative humidity, non-condensing.

Altitude: 0-1,000 m.

Performance: I6B MARK II blower delivers a minimum pressure of 900 (3.8 inches) to the I6B MARK II irradiator test port. (Use non-swept reflectors only.).

Noise: 76 dBA @ 1 m.

Specifications subject to change without notice.

NOTE: The LH6B MARK II should be used in lightshields with unrestricted air flow. When a quartz plate assembly is used below the irradiator, a negative pressure exhaust system is required that eliminates back pressure at the base of the irradiator.

Legacy K6 Blower Specifications

NOTE: The K6 Blower is for Legacy systems. The LHP6B MARK II power supply is backward compatible with a legacy I6B Lamp system containing the K6 Blower.

Electrical: Powered through I6B irradiator.

Mechanical: Integral to I6B irradiator.

Noise: 78.5 dBA @ 1 m.

Filter: A replaceable polyester filter prefilters the cooling air entering the blower. Filters must be non-woven, bonded polyester fiber with a maximum continuous operating temperature of 250°F. The bonding agent must be flame and fungus retardant as well as moisture proof. The air velocity is 200-450 fpm.

Replacement filters are available from **Heraeus Noblelight**.

Specifications subject to change without notice.

NOTE: The I6B should be used in lightshields with unrestricted air flow. When a quartz plate assembly is used below the irradiator, a negative pressure exhaust system is required that eliminates back pressure at the base of the irradiator.

LHP6B MARK II Power Supply

Weight: 18 kg (39 lbs.) (no blower control module) 20 kg (44 lbs.) with blower control module.

Dimensions (WxDxH): 419 mm x 217 mm x 777 mm with connector (16.5 in. x 8.5 in. x 30.6 in. with connector).

Cooling Air Flow: Air flow path: front to rear.

Input Voltages: 200 V-480 V (auto-ranging).

Mounting Position: Horizontal unit can be free standing, stacked, or rack mounted.

Line Power @ 100%: 5 kVA.

Clearance: Allow 305 mm (12 in.) clearance front and rear of the power supply for cooling air flow and cable connections.

Safety Interlocks: E-stop. External interlock (customer I/O). RF fault.

Mag. Current @ 100% / Power: 840 mA / magnetron.

Mag. Current Output Accuracy: ±1%.

Output Range: 35% to 100%.

3-Phase: 50/60 Hz.

Max. Line Current: At 380-480V: 7.25-5.8 (8.8-7.2 A with blower module installed). **At 200-240V:** 13.3-11.1 A (17.1-14.0 A with blower module installed).

Stacking: 5 units maximum.

Enclosure Rating: IP20 (NEMA1).

Front Panel Indicators/Controls: Lamp enable switch. USB port. OLED display unit with on/standby/off buttons and power level control buttons.

Rear Panel Connectors: J101: AC power input. J102: Master/slave. J103: HV control. J104: Irradiator control. J105: RF detector.

J106: Customer I/O. J107: E-stop. J108: Optional blower. J109/J110: Master/slave bus (option for LH6 legacy only). J111: Optional comm bus.

Ventilation: Internal fans.

Filter: Polyurethane foam, 30 pores per inch (PPI). **Audible Noise Level:** 65 dBA @ 1 m (at lamp off/reset). **Compliance:** CE, TÜV.

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Contact your local Heraeus Noblelight office for an engineered solution for your specific requirements.

Global reach, local presence.

Heraeus Noblelight also has experienced distributors around the world, most with factory trained service technicians.



All locations of Heraeus subsidiaries and sales partners: heraeus-noblelight.com

Subject to change. May 2014