Fusion UV® LightHammer® 6 Mark II

UV Curing System

Fusion UV®

excelitas®

excelitas® | Fusion UV®

Introduction

Superior technology and unparalleled service

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

The LightHammer® 6 Mark II brings all of the benefits of microwave-powered UV curing to a 150 mm (6 in.) system.

Operating in the power class of 500 watts/inch (200 watts/cm), the LightHammer® 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.

Continual innovation and improvement

YOUR BENEFITS	
Simplicity and flexibility in the control scheme	Via software versus traditional hardware
Ease of integration, high compatibility	Backward compatible with existing LH6 installations
Increased uptime and reliability of product	Minimize unscheduled downtime
Multiple communication protocols	DeviceNet™, Profibus®, Profinet®, 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

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.

Lamps contain mercury. Manage in accordance with local, state or federal disposal laws.

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 LightHammer® 6 Mark II is the achievement of higher degrees of conversion than is typically achieved with high ripple (AC) powered UV sources. (Patented)

Specifications: LightHammer® 6 Mark II

SYSTEM DESIGNATIONS & REQUIREMENTS	
Available input voltages (50/60 Hz)	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

Specifications: LightHammer® 6 Mark II

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
Bulb spectra types available	H, H+, D, V
Cooling	Cooling recommended at 100% operation (rapid cycling mode and reduced cooling excluded) **I6P Series and I6S Series:** 3.7 m^3/min. (132 scfm) Test point pressure: 0.9 kPa (3.7 in. H_2O) **I6B and I6B Mark II:** Integral
Cooling air requirement filtered*	**I6P Series (I6P1, I6P1LH):** 1.4 kPa (5.5 in. H_2O) (top air inlet) **(I6P3, I6P3LH):** 1.3 kPa (5.0 in. H_2O) (side air inlet) **I6S Series (I6S, I6SLH, I6SULC):** 1.3 kPa (5.0 in. H_2O) (side inlet) **I6B and I6B Mark II:** Integral

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

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.

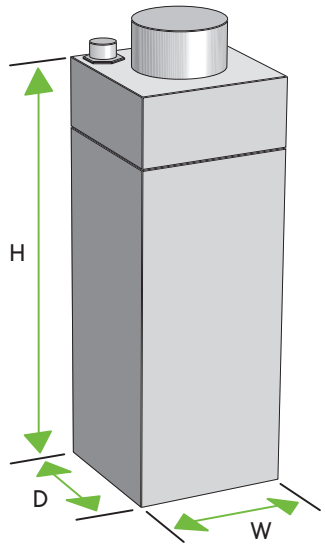
Electrical	Powered through I6B irradiator
Mechanical	Integral to I6B irradiator
Noise	78.5 dBA @ 1 m
Filter	A replaceable polyester filter prefilters the cooling air entering the blower. Filters must be non-woven, bonded polyester fiber with a maximum continuous operating temperature of 250 °F. The bonding agent must be flame and fungus retardant as well as moisture proof. The air velocity is 200–450 fpm

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 to eliminate back pressure at the base of the irradiator.

Specifications subject to change without notice.

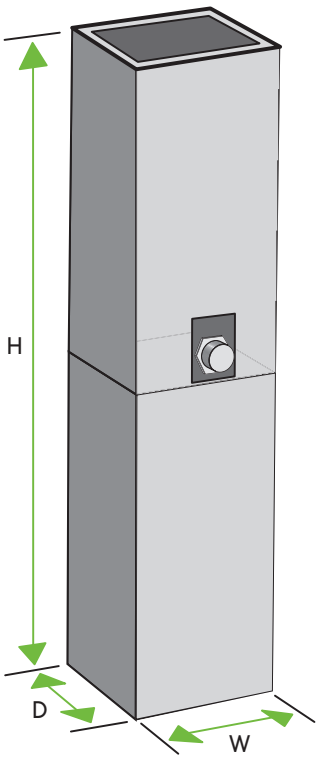
Weight:

I6P1/I6P1LH



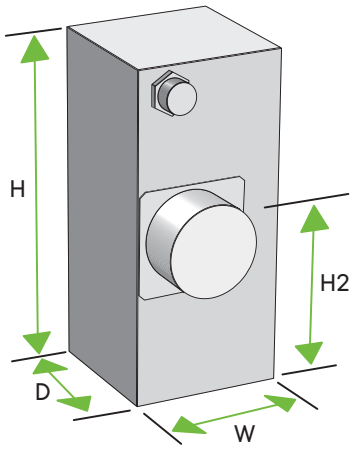
I6P1, I6P1LH: 9.7 kg (21.4 lbs.)
(top air inlet)

I6B (WITH INTEGRAL BLOWER)



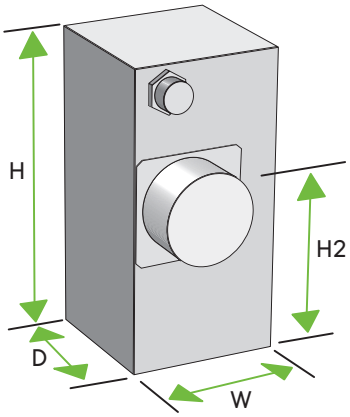
I6B: 13.1 kg (28.8 lbs.)
I6B Mark II: 13.1 kg (28.8 lbs.)

I6P3/I6P3LH



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

I6S SERIES



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

LH6 MARK II – POWER SUPPLY POWER LEVEL CONTROL OPTIONS

Method	Percent Control	Modes of Operation
DeviceNet™, Profibus®, Profinet®, EtherNet/IP™	1% steps	Remote/DeviceNet™, Profibus®, Profinet®, EtherNet/IP™ (additional module required)
4–20 mA input	1% steps, via primary/secondary operation	Remote/dry contact primary/secondary
0–10 V input	1% steps, via primary/secondary operation	Remote/dry contact primary/secondary
4-bit binary input	5% steps, via primary/secondary operation	Remote/dry contact primary/secondary
Front panel switched	1% steps, via primary/secondary operation	Local/front panel

Specifications subject to change without notice.

I6B MARK II BLOWER SPECIFICATIONS

Weight	Part of lamp unit: 14 kg (30.9 lbs.).
Max. dimensions (W x D x H)	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 (for I6B Mark II) 0–2,000 m (for all other I6 irradiators)
Performance	I6B Mark II blower delivers a minimum pressure of 900 Pa (3.8 in. to the I6B Mark II irradiator test port (use non-swept reflectors only)
Noise	79 dBA @ 1 m

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 to eliminate back pressure at the base of the irradiator.

Specifications subject to change without notice.

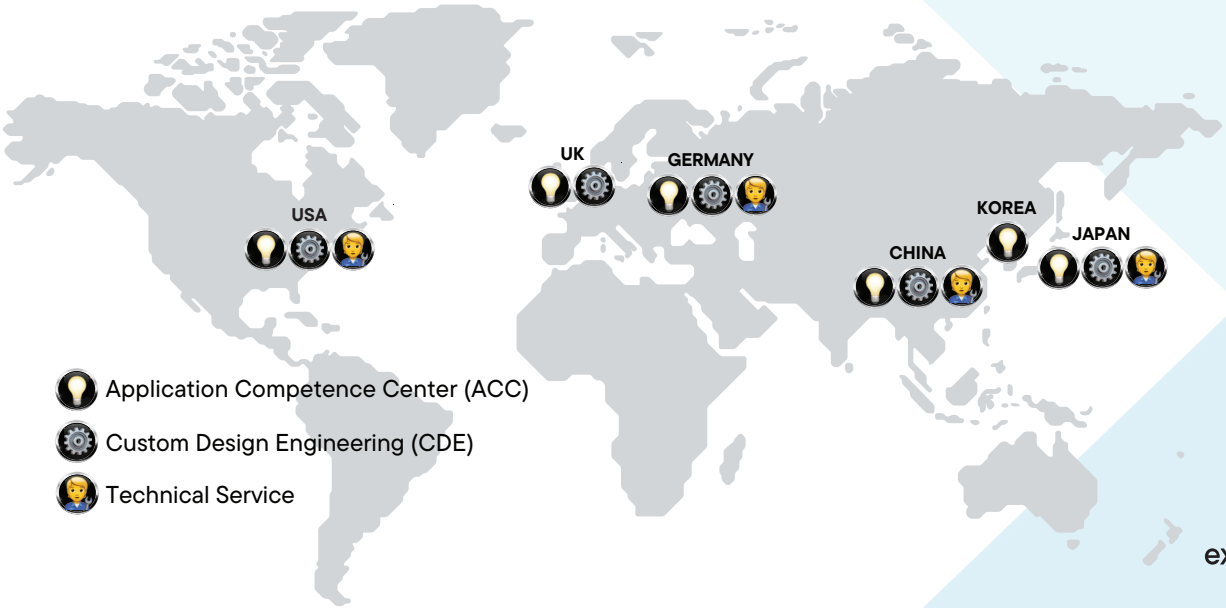
LHP6 MARK II POWER SUPPLY	
Weight	18 kg (39 lbs.) (no blower control module) 20 kg (44 lbs.) with blower control module
Dimensions (W x H x L)	419 mm x 217 mm x 777 mm with connector (16.5 in. x 8.5 in. x 30.6 in. with connector)
Cooling air flow	Air flow path: front to rear
Input voltages	200 V–480 V (auto-ranging)
Mounting position	Horizontal unit can be free standing, stacked, or rack mounted
Line power @ 100%	5.6 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 380–480 V:** 7.25–5.8 (8.8–7.2 A with blower module installed) **At 200–240 V:** 13.3–11.1 A (17.1–14.0 A with blower module installed)
Stacking	5 units maximum
Enclosure rating	IP20 (NEMA 1)
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:** Primary/secondary. **J103:** HV control. **J105:** RF detector. **J106:** Customer I/O. **J107:** E-stop. **J108:** Optional blower. **J109/J110:** Primary/secondary 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

Specifications subject to change without notice.

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

Custom Designed Systems & Services.
Fusion UV also has experienced distributors around the world, most with factory trained service technicians.

Success Factor: Regional teams close to our customers



excelitas Enabling the future

+1 301 527 2660

910 Clopper Road
Gaithersburg, Maryland
20878-1357

excelitas.com
info.hna@excelitas.com

ISO 9001 Certified QMS