Heraeus

Heraeus Noblelight
The Power of Light

UV Curing Products Overview

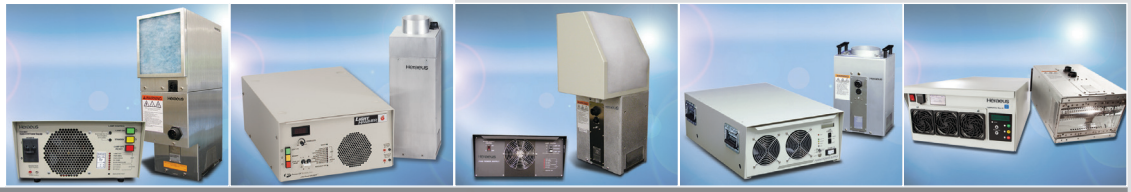
Ultraviolet (UV) curing is a photochemical process in which high intensity UV is used to instantly cure inks, coatings or adhesives in a wide range of industries. Offering many advantages over traditional drying methods, UV curing has been shown to increase production speed, reduce reject rates, improve scratch and solvent resistance, and facilitate superior bonding.

Heraeus Noblelight's microwave-powered lamps are used in hundreds of industrial ultraviolet curing applications from automotive headlamps to flooring to medical devices to wire marking and electronic components.

Our customers have come to count on the quality of cure from Heraeus Noblelight's products – day-to-day, month-to-month and through thousands of hours of use. Our high-energy lamp systems generate a reliable and consistent source of UV energy. And when placing lamp systems side by side for extended widths, there is no loss of energy or need for overlap.

From the economical F300, to the ultra high output 10-inch Light Hammer 10 MARK II lamp system, Heraeus Noblelight offers a wide range of products so that you can choose the right system for your process.

Feature/Model



	F300 Series	Light Hammer 6	F450	F600 Series	Light Hammer 10 MARK II
Lamp Type	Electrodeless UV	Electrodeless UV	Electrodeless UV	Electrodeless UV	Electrodeless UV
Bulb Length	15 cm (6-inch)	15 cm (6-inch)	25 cm (10-inch)	25 cm (10-inch)	25 cm (10-inch)
Extended Curing Width	Unlimited cure width by stacking lamps end-to-end	Unlimited cure width by stacking lamps end-to-end	Unlimited cure width by stacking lamps end-to-end	Unlimited cure width by stacking lamps end-to-end	Unlimited cure width by stacking lamps end-to-end
Bulb Type	H, D, V, H+, Q	H, D, V	H, D, V, H+, Q, A, M	H, D, V, H+, Q, M	H, D, V, H+, Q, M
Start Up Time	20 seconds (cold start), 5 seconds (warm start)	15 seconds (cold start), instantaneous (warm start)[2]	15 seconds (cold start), 5 seconds (warm start)	15 seconds (cold start), 5 seconds (warm start)	15 seconds (cold start), instantaneous (warm start)[2]
Reflector Geometry	Semi-elliptical	Semi-elliptical	Semi-elliptical	Semi-elliptical	Semi-elliptical
Optimum Focus Distance to Sample	5.3 cm (2.1 inches)	5.3 cm (2.1 inches)	5.3 cm (2.1 inches)	5.3 cm (2.1 inches)	5.3 cm (2.1 inches)
Dichroic Reflectors	Optional	Optional	Optional	Optional	Optional
Shutter	Optional Mechanical	Electronic Rapid Cycle	Optional Mechanical	Optional Mechanical	Electronic Shutter[3] Optional Mechanical
Power Class	120 W/cm (300 W/inch)	200 W/cm (500 W/inch)	120 W/cm (300 W/inch)	240 W/cm (600 W/inch)	240 W/cm (600 W/inch)
Power Level	Fixed or Quick Restart (optional)[3]	Full, Variable (35–100%) or Rapid Cycle	Dual level (160/240 W/cm)	Dual level (160/240 W/cm)	Variable (35–100%) Quick Restart[3]
External Control	Standard	Standard	Standard	Standard	Standard Master/Slave; Optional DeviceNet™, Profibus®, Ethernet/IP™
Cooling Blower	Integral or Remote	Integral[1] or Remote	Integral or Remote	Modular[3,4,5] or Remote	Integral or Remote
Air Flow @ Irradiator Inlet	2.8 m^3/min.; 100 scfm	1.4 to 4.2 m^3/min.; 50 to 150 scfm[2]	6.9 m^3/min.; 245 scfm	8.9 m^3/min.; 315 scfm	8.9 m^3/min.; 315 scfm
Lamp Footprint (WxL)	208 x 168 mm (8.2 x 6.6 inches)	168 x 168 mm (6.6 x 6.6 inches)	206 x 267 mm (8.1 x 10.5 inches)	206 x 267 mm (8.1 x 10.5 inches)	206 x 267 mm (8.1 x 10.5 inches)
Compliance	CE, TÜV	CE, TÜV	Call for Info	CE	CE, TÜV

1. Not available with "electronic shutter" 2. Depending on Duty Cycle and Power Level 3. Not for Cycling operation 4. Only available with specific configurations and markets 5. Requires separate electrical power

Accessories

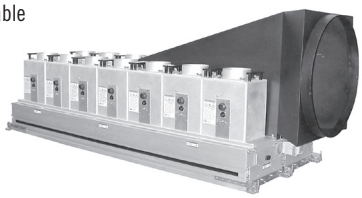
- Special fill bulbs available – matches the lamp spectrum to the process
- 8,000-hour warranty (non-prorated) on H bulbs; 6,000-hour warranty (non-prorated) on special fill bulbs
- Light shields, standard and custom for webs, sheets and 3D parts
- Conveyors
- Wide line system to 6 m (20 feet) and more
- Custom design and engineering
- Cabinet enclosures for multiple power supplies
- Turnkey system capability
- Variable power output option

Unsurpassed power and reliability are the result of Heraeus Noblelight's continued commitment to develop improved ultraviolet curing solutions that meet our customers' demands for higher production speeds, better process control, and lower cost of ownership.

UV Processing Systems

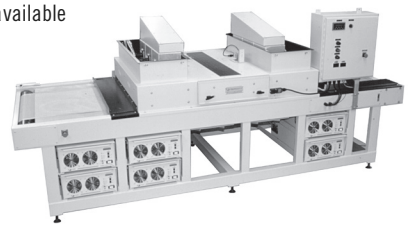
Web Systems

- 15 cm (6 in.) to 6 m (20 ft.) wide
- Nitrogen inerted to 30 ppm O_2 available
- Purged and pressurized available for hazardous locations
- Full integration with process controls
- On-line monitoring available



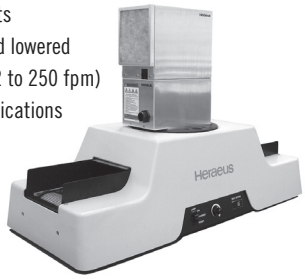
Sheet Handling and Part Handling Systems

- Conveyor widths 5 cm (2 in.) to 3 m (10 ft.) wide
- Conveyor speeds to 900 m/min. (3,000 fpm)
- Belts of Teflon®-coated Kevlar®, nomex (anti-static) or stainless steel
- Water-cooled beds, cold reflectors available
- Nitrogen inerting available



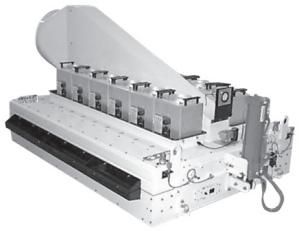
Benchtop Conveyor Systems

- Ideal curing system for small parts
- Lamp can be rotated or raised and lowered
- Belt speeds of 0.6 to 76 m/min. (2 to 250 fpm)
- Ideal for laboratory and R&D applications
- Rugged enough for pilot plant or production environments



Wide-line Systems

- Widths unlimited
- 8-meter wide systems in production
- Excellent uniformity across entire product width
- Low heat output for thermally sensitive products
- Nitrogen-inerted systems available

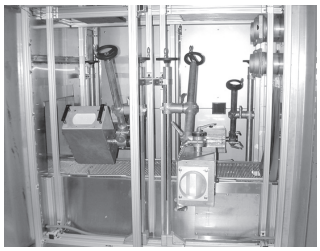


Wire, Cable and Fiber Systems

- 360° reflector systems for maximum efficiency
- High intensity, well-defined “sweet spot” for maximum product speed
- Nitrogen inerted systems available
- Special reflector patented for optical fiber production

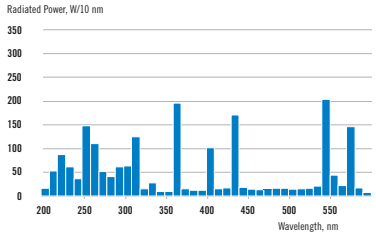
Special Product Handling Systems

- Static exposure chambers
- 3D parts curing
- Rotational or non-rotational cure
- Robotic parts handling

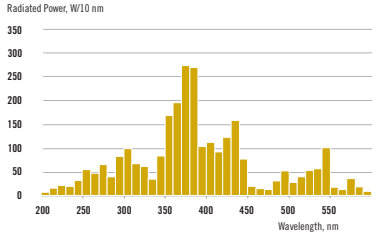


Output Spectra of Typical Heraeus Noblelight Electrodeless Bulbs

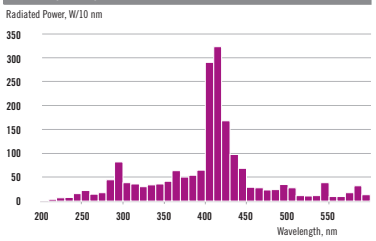
H Bulb (13 mm)



D Bulb (13 mm)



V Bulb (13 mm)



Curing of coatings, inks, paints and adhesives with UV (ultraviolet) is considered a “green” technology. It provides a healthier environment to workers and offers several advantages over solvent-based technologies including a reduction in VOCs (volatile organic compounds), air pollutants and flammability.

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

Subject to change. May 2014

heraeus-noblelight.com/fusionuv

ISO 9001 Certified QMS

Germany
Heraeus Noblelight GmbH
Heraeusstraße 12-14
63450, Hanau
Phone +49 6181 35 4499
Fax +49 6181 35 9926
hng-uv@heraeus.com

USA
Heraeus Noblelight America LLC
910 Clopper Road
Gaithersburg, Maryland
20878-1357, USA
Phone +1 301 527 2660
Fax +1 301 527 2661
info.hna.uvp@heraeus.com

Japan
Heraeus K.K.
Noblelight Division
Sumitomo Fudosan Otowa
Building 1F, 2F, 5F
2-9-3 Otsuka, Bunkyo-ku
112-0012, Tokyo
Phone +81 3 6902 6602
Fax +81 3 6902 6613
info.hkk@heraeus.com

China
Heraeus Noblelight (Shenyang) Ltd.
Shanghai Branch
2F, 5th Building 5
No. 406, Guilin Rd, Xuhui District
Shanghai 200233,
P.R. China
Phone +86 21 5445 2255
Fax +86 21 5445 2410
info.hns@heraeus.com