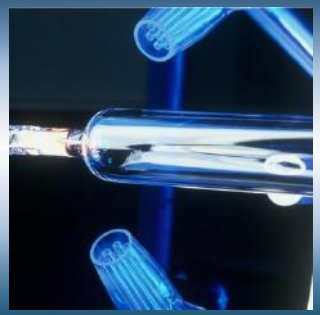
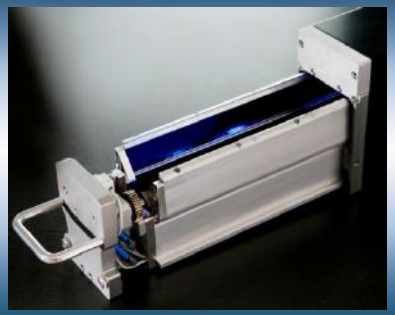




Hönle UV-Technology

Strong brands – strong products

Management:

Member of the Board
Sales & Technology:
Heiko Runge

Member of the Board
Finance:
Norbert Haimerl

Headquarters Dr. Hönle AG Germany

Headquarters Dr. Hönle AG, Germany

Hönle - A success story since 1976

1976
Foundation of Dr. K. Hönle GmbH for development, production and distribution of medical equipment

since 1980
First UV curing systems for industrial applications

1994
Foundation of Honle UV America Inc., Marlboro

Concentration on industrial UV technology

1998
Foundation of subsidiary Honle UV France, Lissieu/Lyon

24.01.2001
Going public

2001
Start of Aladin GmbH: Development of own UV lamps

Foundation of Honle Spain S.A., E-Barcelona

2002
Development of own adhesives

Opening of representative Office China, Shanghai

2008
Acquisition of Panacol (adhesives), PrintConcept (UV technology particularly for web offset printing) and Eltosch Torsten Schmidt GmbH (UV /IR / Hotair technology for sheet-fed offset printing)

2009
Foundation Eltosch Grafix America

2010
Hönle acquires UV-Technik Speziallampen GmbH

2011
Opening of sales office Italy, Pavia

Hönle acquires Mitronic GmbH

2012
Hönle acquires quartz glass specialist Raesch

New member of the Hönle Group: Grafix GmbH

2014
Fusion of Eltosch and Grafix into Eltosch Grafix GmbH

Market segments

honle uv technology

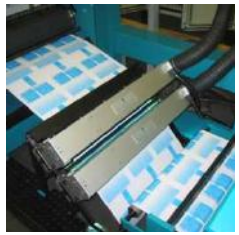
honle uv technology

uv units and uv systems for inkjet and flexo printing and industrial applications

eltosch grafix
ir/uv/powder/cooling

powder spraying, ink temperature control and uv-, ir- and hotair solutions for sheet-fed offset printing

printconcept
uv technology



uv technology for rotary offset printing

honle group

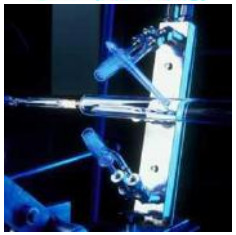
mitronic
lighting technology

Simulation of natural sunlight

RAESCH
QUARZ GERMANY

quartz glass components

aladin
uv lamp technology



uv lamps & reflectors

uv-technik
Speziallampen

uv- & ir-lamps

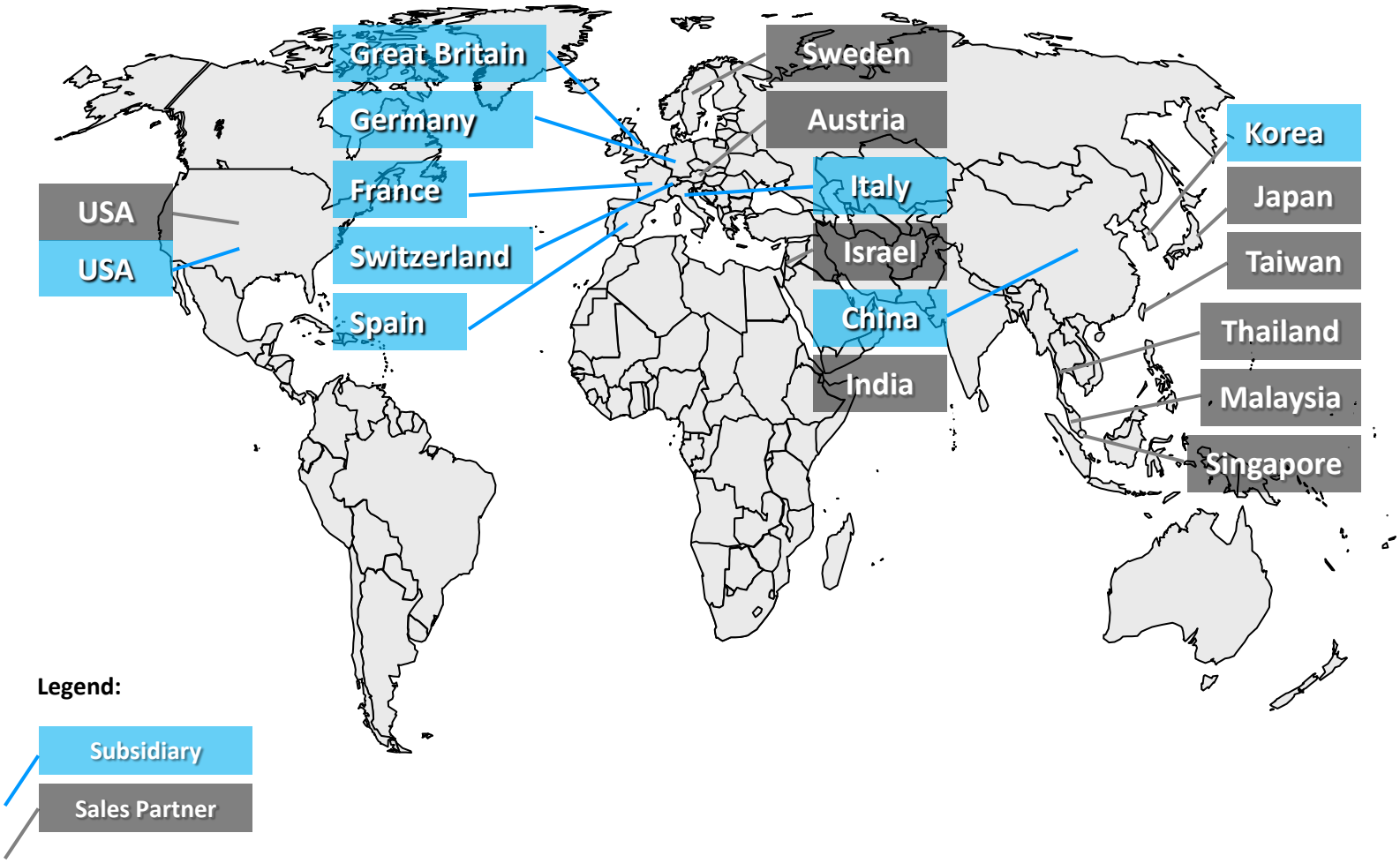
panacol
adhesives & more

adhesives

éleco-EFD
adhesives & more

adhesives, dispensing units

Hönle Group worldwide



Products

Product Overview

UV Lamps and Equipment

- Curing of Inks and Coatings
- Curing of Adhesives and Plastics
- Surface Disinfection
- Fluorescent excitation
- Simulation of Natural Sunlight

Devices with gas discharge lamp

UVAHAND 250

Mobile and long service life

- Iron bulb and Gallium bulb
- Versatile use due to handy device
- Easy Control: On/Off
- Ballast box: 4 kg
  Lamp Unit: 1,9 kg
- Blacklight Filter available for Fluorescent Application
- Intensity: 250 mW/cm² (UVA)

* measured in 20mm distance, with UV-Meter and UVA surface sensor

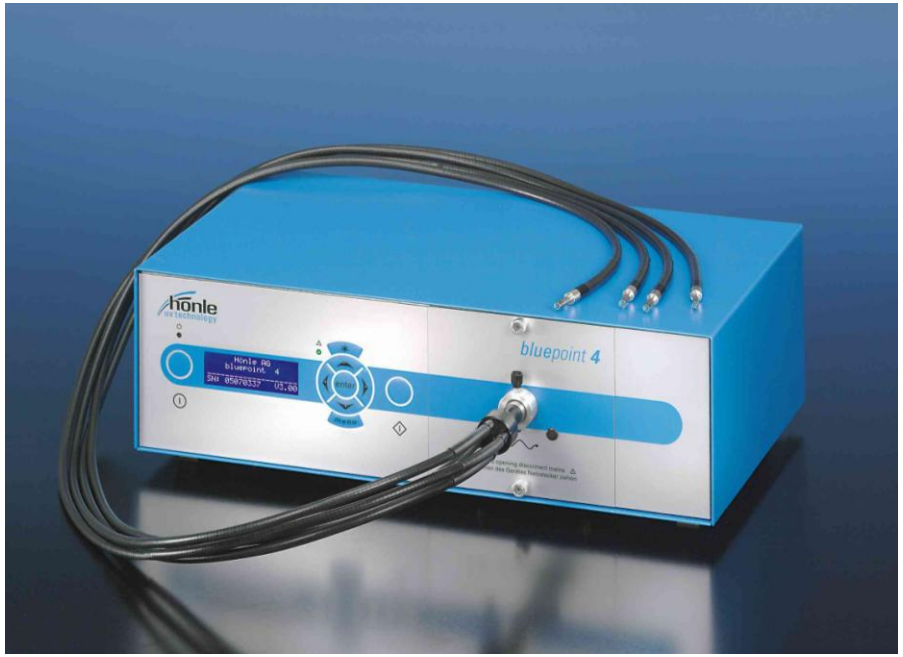
Bluepoint 4 ecocure

High-performance UV spot lamp

- UVA-intensity between 2.000 and 14.000 mW/cm^2* adjustable
- Timer-controlled shutter
- Interface for software-update
- Different filter available
- 6 different parameter settings can be memorized
- Single to quadruple light guide available
- Fiber optic light guides on request

* Hönle UV Meter and test light guide

Bluepoint 4



High-performance UV spot lamp

- UVA-intensity between 2.000 and 14.000 mW/cm^{2*} adjustable
- Automatically program sequence
- PLC interface
- Lamp output between 60 % to 100 % adjustable
- Single to quadruple light guide available
- Fiber optic light guides on request

* Hönle UV Meter and test light guide

UVASpot

Versatile flood lamp

- Power input 400 W, 1.000 W and 2.000 W
- Modular concept for a homogenous radiation area
- Different emission spectra by combination of different lamps and filters
- Air- or convection-cooled bulb with separate ballast box
- When using several units the ballast boxes can be integrated in a switch cabinet
- Black light version for fluorescence applications available (UVASPOT 400/T-BL)

UVACube 400

Versatile UV curing chamber

- Ideal for laboratory use and small series
- Lamp output max. 400 W
- Different spectra available
- For sun simulation use
- Safety of operation through interlocking between the chamber door and shutters
- Homogeneous radiation in the chamber

UVACube 2000

Versatile UV curing chamber with high intensities

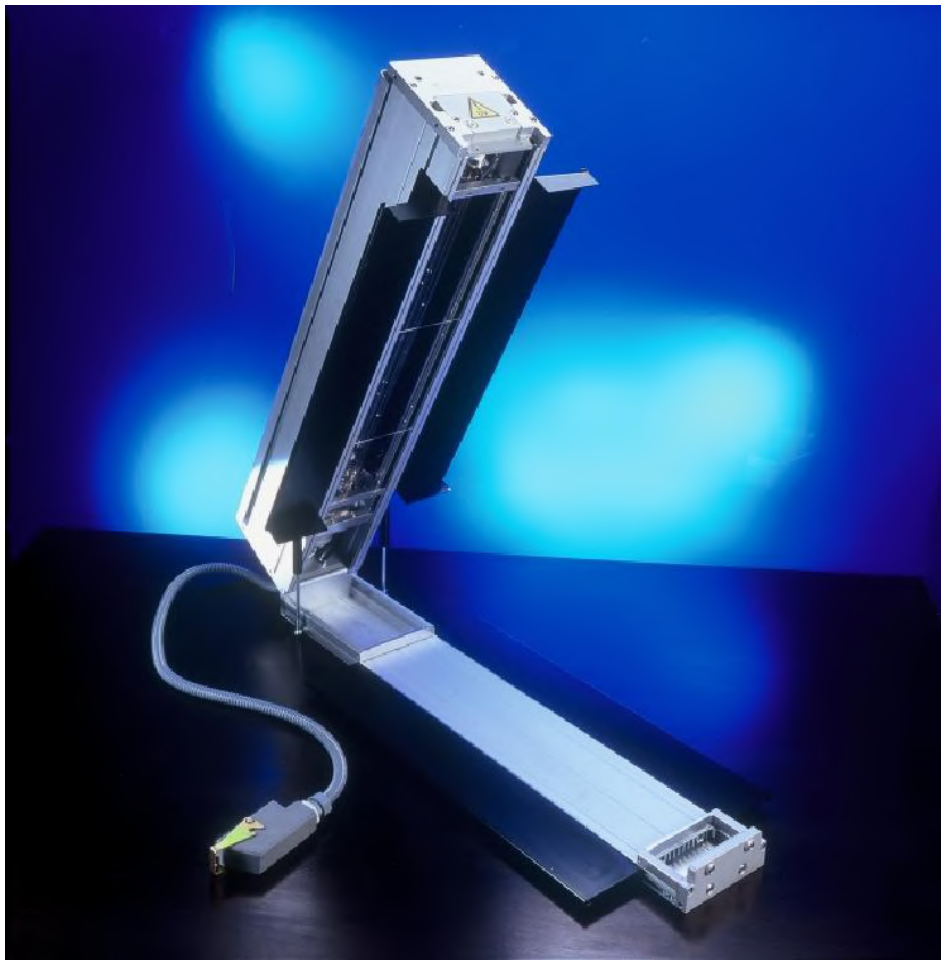
- Ideal for laboratory use and small series
- Lamp output max. 2.000 W
- Several spectra available
- Timer-controlled shutter, acoustic end signal
- Safety of operation through interlocking between the chamber door and shutters
- Homogenous radiation in the

UVAPRINT HPV

Compact, high intensity UV Flood lamp

- Electromechanical shutter / pneumatic shutter
- CAD optimised reflector geometry for maximum UV intensity
- External shutter drive and lamp error signal
- Available in arc lengths of 100, 150 and 200 mm
- Option for ACM technology
- Compact size – optimised for retrofitting

UVAPRINT – Product Line



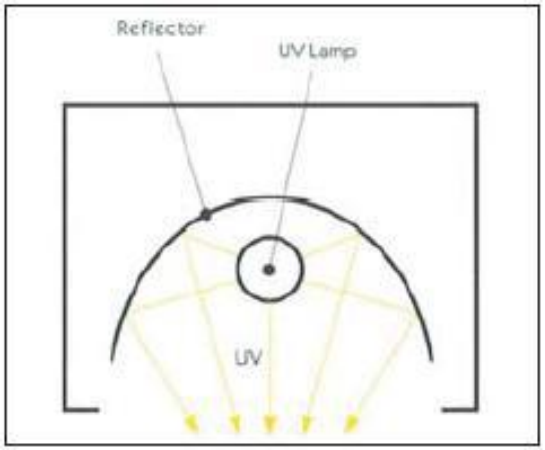
- Arc lengths 60 – 2350 mm
- Typical arc power outputs 80 - 240 W/cm
- Custom-made versions
- Reflector systems adapted to the application

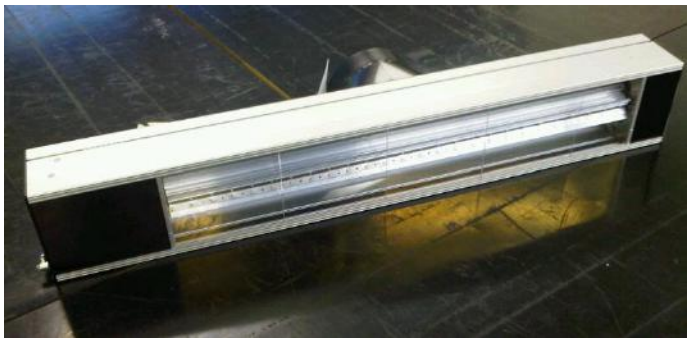
UVAPRINT - ACM

- CAD optimised reflector geometry for maximum UV intensity
- ADVANCED COLD MIRROR version
- F, G and H lamp
- Different arc lengths (60 - 2350 mm)
- PLC Interface

UVAPRINT E – with elliptical reflector

- long arc lamp
- (60 - 1055 mm)
- specific lamp power up to 240 W/cm
- elliptical reflector for highest UV-intensity in 59mm distance





UVAPRINT 770 E

LED units

LED Power Pen

Handy LED spot source

- Spectra 365nm (+/-10nm)
- Intensity approx. 10.000 mW/cm²*
- No warm up phase
- No stand by time
- Less heat impact
- Continuous working time of 10min

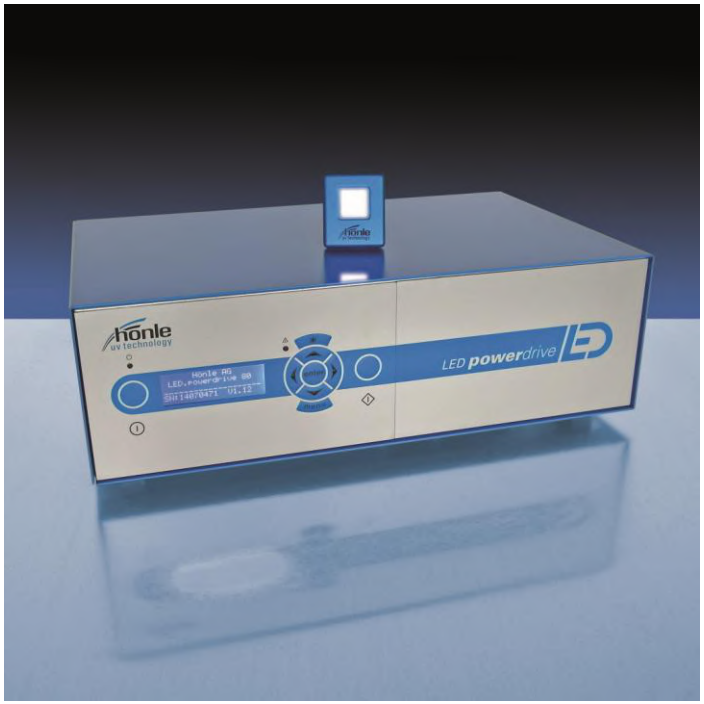
* measured with Hönle UV Meter in a distance of approx. 12mm

Bluepoint LED eco

High power spot lamp

- No active cooling needed (water/air) !
- Entry of complete program sequences
- PLC Interface
- LED-power adjustable from 10 % to 100 %
- 365 nm, 385 nm and 405 nm (+/- 10nm) LED heads available
- Temperature compensation of the LED
- Up to 4 LED heads usable
- small housing
- Optional: Adapter for up to 4 foot switches

LED Spot w



High power flood lamp

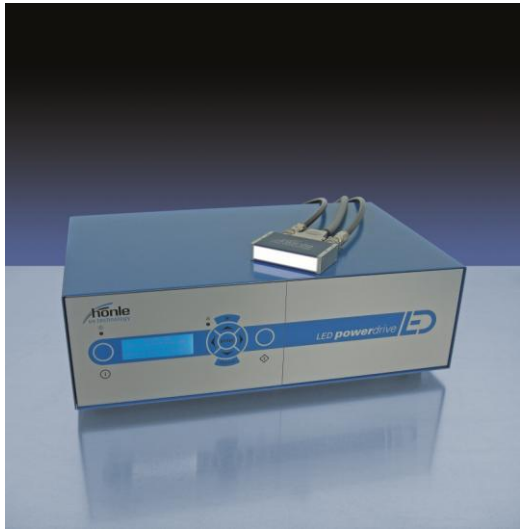
- Most intensive UV irradiation on larger areas (aperture 20x20mm)
- Entry of complete program sequences
- PLC- interface
- LED-power adjustable from 2 % to 100 %
- available LED wavelength 365 nm, 385 nm, 395 nm and 405nm (+/-10nm)
- Temperature compensation of the LED
- Water cooled (very small size **50x60x17**mm, w/o connectors)

LED Spot 100 & LED Powerdrive

Flood Lamp for big areas

- Homogeneous irradiation of a large area
- Emitting aperture 100x100 mm
- Possibility to array irradiation fields of any size
- Available wavelengths: 365 / 385 / 395 / 405 nm / 460nm (+/- 10nm)
- Intensity: 1.500 mW/cm^2 @ 460nm
- Intensity: 600 mW/cm^2 @ 365nm

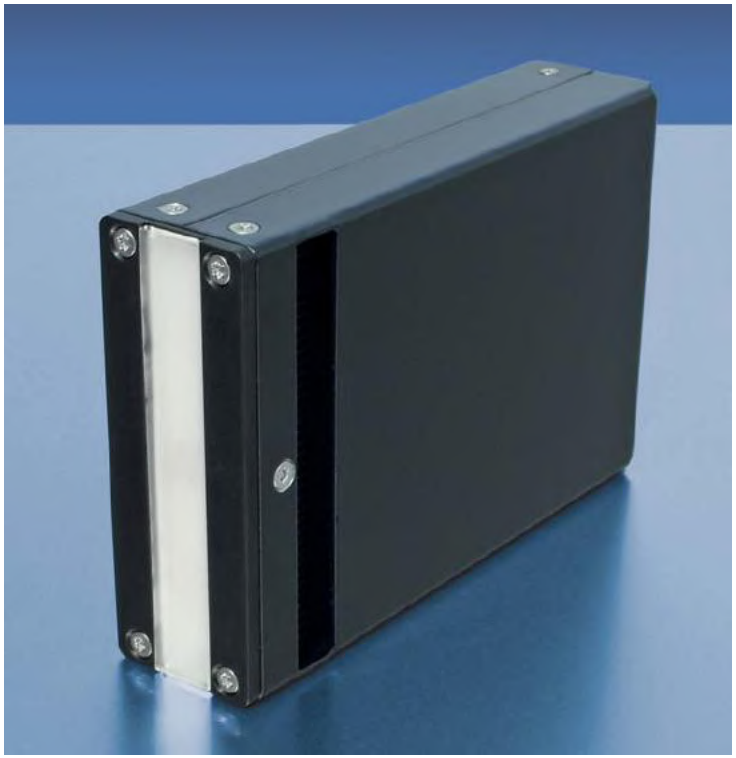
LED Powerline LC



High power flood lamp

- high Intensity
  (up to 20.000 mW/cm²)
- customized lengths up to 2100x10mm
- Available wavelengths 365, 385, 395 and 405nm
- Water cooling
- Adjustable power output from 2 to 100% in 1%-steps
- Timer 0,1 to 999,9 seconds or permanent operation
- Low weight and small dimensions
- External control for integration in fully automatic production lines
- Suitable for clean room
- OEM version available

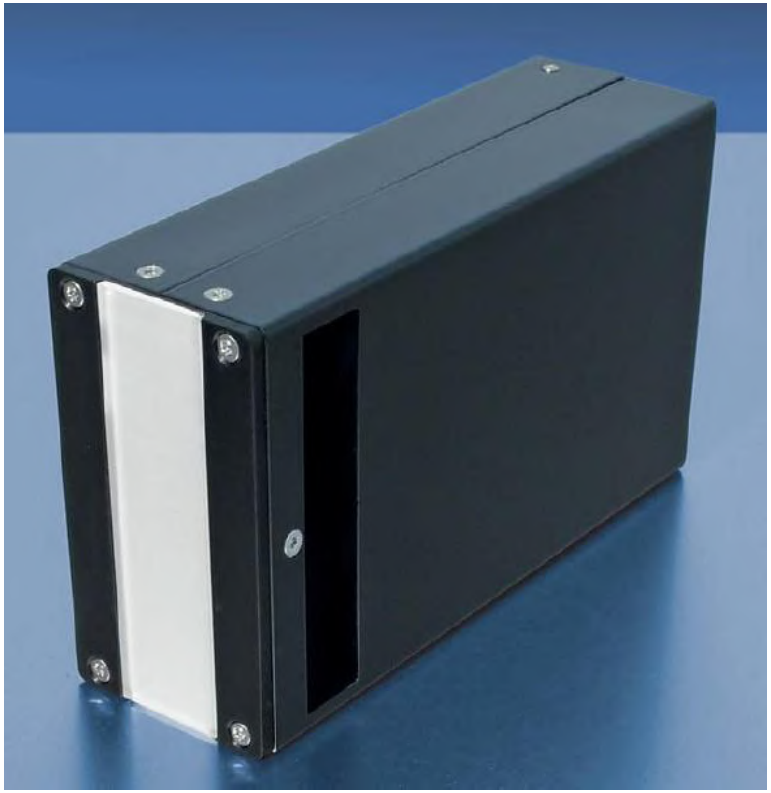
LED Powerline AC/IC 410



High power flood lamp (Air Cooled)

- 78 mm x 10 mm irradiation window
- stackable
- air cooled
- Up to 4 W/cm^2
- 365/385/395/405 nm
- Integrated controller for supply with 48 V
- compact design
- low weight
- Option: external controller

LED Powerline AC/IC 820



High power flood lamp (Air Cooled)

- 78 mm x 10 mm irradiation window
- stackable
- air cooled
- Up to 8 W/cm^2
- 365/385/395/405 nm
- Integrated controller for supply with 48 V
- compact design
- low weight
- Option: external controller

LED Cube 100

Versatile UV curing chamber

- Ideal for laboratory use and small series
- Available wavelengths: 365 / 385 / 395 / 405 nm / 460 nm+/- 10nm
- Safety of operation through intelligent door – LED connection
- Homogenous intensity distribution

UVAHAND LED

Mobile Flood lamp

- 365nm and 405nm (+/-10nm)
- long lifetime
- no warm up phase
- instant on/off
- low power consumption around 64W
- no ballast box necessary
- The narrow spectra @ 365nm allows very good visibility for fluorescence applications
- Intensity:
  365nm: 130 mW/cm²*
  405nm: 300 mW/cm²*

* measured in 20mm distance, with UV-Meter and LED surface sensor

Measuring units

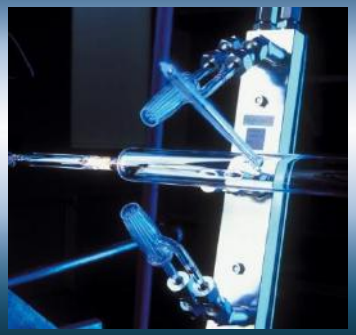
UV-Meter

Measurement of intensity and dose

- Measurement in different wavelength areas through exchangeable sensors and automatic sensor recognition. Special LED sensor.
- Two-channel measuring for different wavelength spectra
- Data storage for recording measurements
- Auto-start of measurement when minimal values are exceeded
- Automatic switching between measurement ranges
- Measurement values displayed in different units (mW/cm^2, W/cm^2)
- Integrated real-time clock
- Docking station with accumulator charging connection and RS232 interface for transmission and PC evaluation of measured values

UV units and systems

UV lamps



UV measurement

UV adhesives

Test Laboraty

Thank you for your attention

www.hoenlegroup.com