

LED UV

ADVANCED UV SOLUTIONS WITH
CONTEMPORARY PATENTED DESIGN
FOR WATER, INDUSTRY, MEDICAL
AND BIOSCIENCE



UV LED PRODUCT SERIES

HOSPITAL ACQUIRED DISINFECTION APPLICATIONS

- ⇒ CONSULTING
- ⇒ DESIGN
- ⇒ MANUFACTURE
- ⇒ QUALITY
- ⇒ SALES
- ⇒ SERVICE SUPPORT



TruSpectra

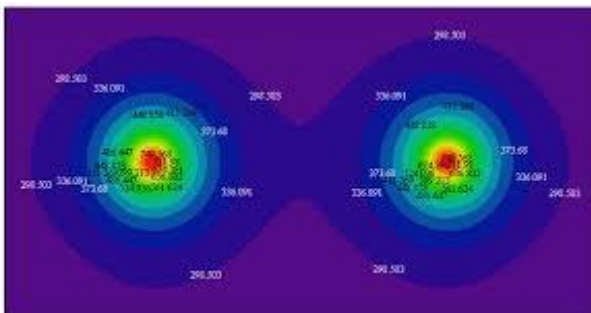
ADVANCED UV LED SOLUTIONS WITH CONTEMPORARY DESIGN

INNOVATION & QUALITY

Verentia relies on high-quality materials and precise workmanship to produce high quality UV systems be it for Bio Science, Curing, printing or Disinfection market. Verentia has developed an innovative UV LED dryer for curing all types of UV coating and adhesives. Depending on the material requirement, the system is available with UV LED curing lamps. Thanks to its compact design, the system can be adapted to suit any production environment



HIGH STANDARDS IN DESIGN, MANUFACTURING AND QUALITY



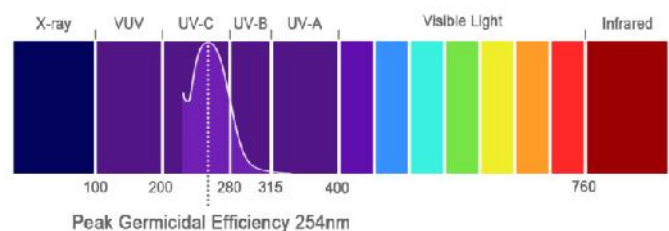
Industrial and medical fraternity at hospitals encounter various tasks, surgeries, examinations and treatments. Hygiene in the workplace is almost constantly challenged. Disinfection Performance and reliability of medical equipment is therefore especially paramount., at the same time, the subject of economic efficiency gains in importance. Intelligent and high quality disinfection solutions help to reduce ongoing operational costs significantly at the

PROUCT DESIGN AND FLEXIBILITY

The use of UV LED technology permits high Irradiance, optimized thermal design allows low heat build-up, a maintenance free service life, high efficiency, high Fluence and thus maximum economic viability. We do more than just design, develop, manufacture and supply electronic power supplies and UV lamps, we specializes in tailoring our UV/LED equipment to our customers' unique technology needs and business environments

HIGH IRRADIATION, DIFFERENT WAVELENGTH & COMPACT DESIGN

TruspectraUV comes with inbuilt high performance LED with high Irradiance factor to suit individual needs of the customer from 230nm to 405nm. TruspectraUV offers unparalleled ease in controlling different wavelength through specially designed electronics which is integrated inside the compact and aesthetic housing at the same time thermal engineering support long life and ease in maintenance.



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ADVANCED UV LED SOLUTIONS WITH CONTEMPORARY DESIGN

CHALLENGING APPLICATIONS

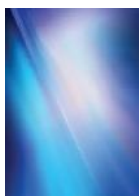
For the most challenging applications, off-the-shelf lighting solutions cannot deliver the performance you need to optimize your system. Often designed for a wide range of applications, these off-the-shelf products simply cannot deliver the same results as a custom LED solution that is designed specifically to meet your requirements

CHIP ON BOARD TECHNOLOGY

At Verentia, we utilize Chip-on-Board technology to create compact, high intensity and uniform LED light sources. We design and manufacture products, from intricate LED arrays to complex turnkey solutions, integrating custom optics, electronics, mechanics and software to provide the best possible solution.

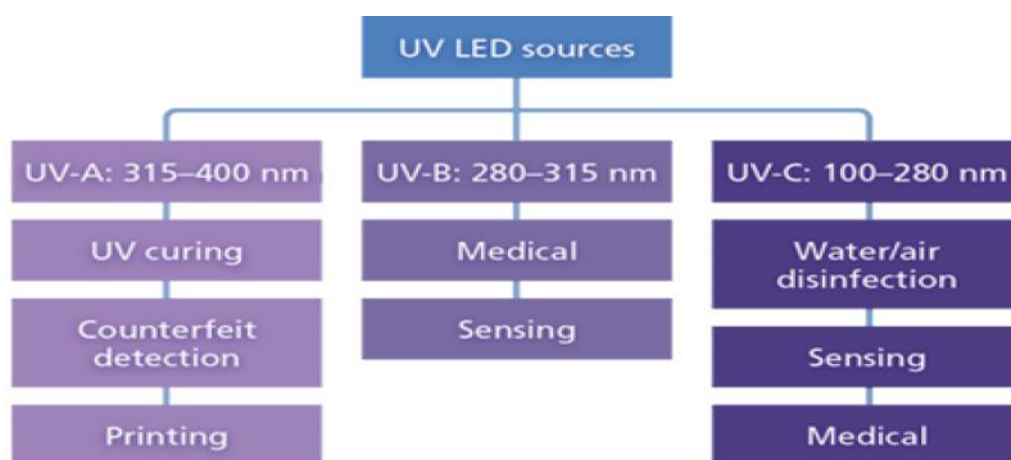
CUSTOM SOLUTIONS

Verentia strengths in LED engineering and related technology allow us to offer the widest range of wavelengths available on the market. We specialize in creating custom LED solutions that utilize multiple wavelengths or non-visible wavelengths such as UV & IR solutions. The strength of our relationships with LED suppliers means that we are always up-to-date with the latest in LED technology.



APPLICATIONS

Visible-spectrum LEDs have penetrated into TV and mobile backlighting, automotive, general lighting, signage, and other markets, ultraviolet (UV) LEDs are just beginning to replace incumbent UV sources in diverse applications, including curing, counterfeit detection, medical, sensing, printing, and water/air disinfection.



- 230 to 400 nm: optical sensors and instrumentation
- 230 to 280 nm: UV ID verification, barcodes
- 240 to 280 nm: sterilization of surface areas and water
- 250 to 405 nm: forensic and bodily fluid detection and analysis
- 270 to 300 nm: protein analysis, drug discovery
- 300 to 320 nm: medical light therapy
- 300 to 365 nm: polymer and ink printing
- 375 to 395 nm: counterfeit detection
- 390 to 410 nm: superficial / cosmetic sterilization



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ADVANTAGES OF UV LED OVER UV MERCURY LAMPS

Ultraviolet light has become a star player in the disinfection world. It is increasingly being used in key applications that require alternative disinfection options. UV disinfection has several advantages including:

Chemical free. UV provides physical treatment without the use of harmful chemicals. No DBPs. No risk of harmful disinfection byproducts being generated as with chemical treatment

Efficient pathogen inactivation. UV is very effective against a wide range of waterborne pathogens, including chlorine-resistant organisms such as *Cryptosporidium* and *Giardia*.

Mercury free. Conventional UV lamps contain mercury, but UV LEDs are free of hazardous materials, which eliminates the risk of a mercury spill due to a lamp breakage.

Compact footprint. High-power-density UV-C LEDs and advanced controls allow for a much smaller footprint compared to traditional UV systems.

Instant on/off. Systems are intermittent-flow friendly and can instantly be switched on and off without any warm-up time requirements. This also enhances power savings and leads to a prolonged lamp life.

Temperature independent. LEDs do not transfer heat into the water, thus limiting lamp fouling and ensuring a constant UV output, regardless of water temperature.



TruSpectra

EXPERIENCE THE FUTURE OF MEDICAL ULTRASOUND PROBE
DISINFECTION TECHNOLOGY

CONNECTING YOUR BUSINESS TO THE TECHNOLOGY RESOURCE YOU NEED FOR YOUR HOSPITAL ACQUIRED INFECTION DISINFECTION APPLICATIONS

Manually soaking ultrasound probes has long been the disinfection standard. Ultrasound users and administrators know well the challenges that come with it. Ultra Violet based technologies are helping our customers to overcome them, offering quick, easy and cost-effective methods of high-level disinfection (HLD) to improve patient safety, staff efficiency and audit compliance.



Another challenge is the impact that probe reprocessing has on workflow. Reprocessing involves three steps pre-cleaning, disinfection and storage and can be especially resource-intensive. Manual soaking requires one or more rooms typically outfitted with air exchangers to vent toxic fumes; eye wash stations installed nearby for use in case of accidents; and personal protective equipment worn by staff during the soaking process.

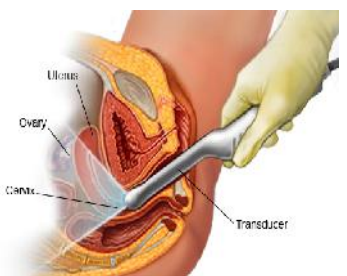


A core challenge is the efficacy of the process itself, which must kill the bacteria, viruses and fungi that threaten to cross-contaminate patients. Of special concern is the human papilloma virus (HPV), which is prevalent on probes after endovaginal exams and can resist disinfection by manual soaking. Ultrasound probes come in contact with mucus membranes or bodily fluids, such as blood, during medical procedures and must be carefully disinfected to prevent harmful

contamination

UVC disinfection is a simple, fast, and effective means to disinfect unprotected ultrasound probes after **Anesthesia block placement, and after cover removal following endorectal or endovaginal examination**

Apparently medical equipment and devices also play a central role for causing **healthcare associated infections (HCAI)**. The Ultrasound probe is one of the most used device by medical personnel, and its and related aspects are therefore a crucial question of hygiene. Most surveys show that 50-70% of physicians do not systematically disinfect their probe after each examination. **TruSpectra supports the ease of use of Ultrasound Probe which disinfects the probe surface during routine patient examination studies.**





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EXPERIENCE THE FUTURE OF MEDICAL ULTRASOUND PROBE
DISINFECTION TECHNOLOGY

VERENTIA BRINGS PATENTED ULTRAVIOLET BASED DISINFECTION OF ULTRASOUND PROBES WHICH BRINGS VALUE TO CUSTOMER BUSINESS WITHOUT ENDANGERING SAFETY OF ITS PATIENTS

Innovative and Patented design. Automatic and sleek compact design, UVC treatment is non toxic for the practitioner or the patient and non-corrosive for the ultrasound probes

Exceptionally High Fluence. Designed for 4 Log reduction and provides 360° of UVC radiation around the transducer for effective decontamination. Exceptionally high UV Fluence and Irradiance, with lower losses and high thermal performance.



Portable, long lasting, efficient light source, and high performance aerodynamic light housing with optimal optical source with in-built electronic controller system.

Time productivity Quick intermediate 90 second of high level of disinfection after which the probe is ready to be used again, which is the time necessary to change the drapes and take the patient back to the examination cabin.



UV automated disinfection units provide simple, rapid, **Reliable and Ecological disinfection** of the probe between each patient. UVC disinfection system which produces a dosage of UVC radiation sufficient to kill *Clostridium difficile* and other pathogens in a simple fast and unique manner



TruSpectra

SPECIFICATIONS OF UV LED ULTRASOUND PROBE DISINFECTION SYSTEMS



Fluence Delivered	40mJ/cm ²	40mJ/cm ²
Microbial Inactivation	4 log >99.99%	4 log >99.99%
Exposure time	90-130Sec	130-200Sec
Ultrasound chamber dimension (LxWxH)	15cmx15cmx100cm	15cmx15cmx100cm
Application	Ultrasound	Ultrasound
Operating Voltage	8 VDC	8 VDC
System Power	22W	22W
Warranty	1 year	1 year
Wavelength	265-280nm	265-280nm

The use of automatic UV-C disinfection device resulted practical and easy to use ultrasound probe after disinfection for the health professionals affirming clinical effectiveness of ultraviolet light for the disinfection of ultrasound probes. UV-C irradiation of the probe surface showed a marked reduction of bacterial load, confirming its high disinfection capacity.

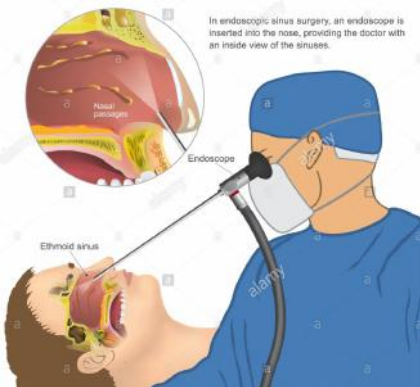
The Tru-Spectra Ultra Sound probe is designed to activate the probe surface upon placement inside the housing with inbuilt sensors to irradiate the surface of the probe and auto switch off upon designed time. Standard designed dose is 60 seconds with additional deeper dose of 150 seconds.



TruSpectra

EXPERIENCE THE FUTURE OF ENDOSCOPE DISINFECTION SYSTEMS

CONNECTING YOUR BUSINESS TO THE TECHNOLOGY RESOURCE YOU NEED FOR YOUR ENDOSCOPE DISINFECTION APPLICATIONS

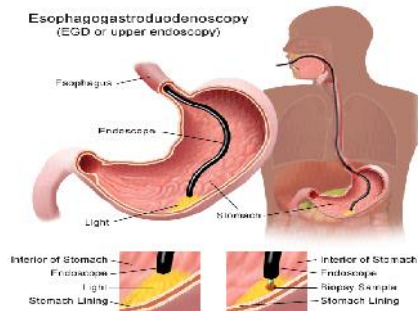
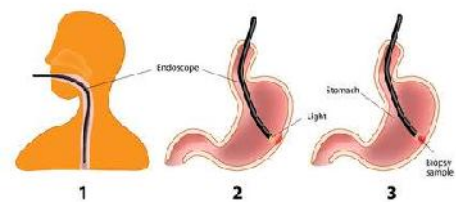


UVC disinfection is a simple, fast, and effective means to disinfect unprotected ultrasound probes after endoscopic procedures. The endoscopic procedures uses an endoscope to examine the interior of hallow organ or cavity of the body. Unlike other imaging techniques, endoscopes are inserted directly inside the human body.

Apparently medical equipment and devices also play a central role for causing **healthcare associated infections (HCAI)**. The endoscope is one of the most used device by medical personnel, and its and related aspects are therefore a crucial question of hygiene. Most surveys show that 50-70% of physicians do not systematically disinfect their probe after each examination. TruSpectra supports the ease of use of Ultrasound Probe which disinfects the probe surface during routine patient examination studies.

Manually soaking endoscope probes has long been the disinfection standard. Endoscope users and administrators know well the challenges that come with it. Ultra Violet based technologies are helping our customers to overcome them, offering quick, easy and cost-effective methods of high-level disinfection (HLD) to improve patient safety, staff efficiency and audit compliance.

Esophagogastroduodenoscopy



A core challenge is the efficacy of the process itself, which must kill the bacteria, viruses and fungi that threaten to cross-contaminate patients. Of special concern is the human papilloma virus (HPV), which is prevalent on probes after endovaginal exams and can resist disinfection by manual soaking. Ultrasound probes come in contact with mucus membranes or bodily fluids, such as blood, during medical procedures and must be carefully disinfectd to prevent harmful contamination



TruSpectra

EXPERIENCE THE FUTURE OF ENDOSCOPE DISINFECTION SYSTEMS

VERENTIA BRINGS PATENTED ULTRAVIOLET BASED DISINFECTION OF ENDOSCOPE TUBES WHICH BRINGS VALUE TO CUSTOMER BUSINESS WITHOUT ENDANGERING SAFETY

Innovative and Patented design. Automatic and sleek compact design, UVC treatment is non toxic for the practitioner or the patient and non-corrosive for the ENDOSCOPE tube surface

Exceptionally High Fluence. Designed for 4 Log reduction and provides 360° of UVC radiation around the endoscope for effective decontamination. Exceptionally high UV Fluence and Irradiance, with lower losses and high thermal performance.



Portable, long lasting, efficient light source, and high performance aerodynamic light housing with optimal optical source with in-built electronic controller system.

Time Productivity Quick intermediate 90 second of high level of disinfection after which the probe is ready to be used again, which is the time necessary to change the drapes and take the patient back to the examination cabin.



UV automated disinfection units provide simple, rapid, **Reliable and Ecological disinfection** of the endoscope between each patient. UVC disinfection system which produces a dosage of UVC radiation sufficient to kill *Clostridium difficile* and other pathogens in a simple fast and unique manner

The use of automatic UV-C disinfection device resulted practical and easy to use ultrasound probe after disinfection for the health professionals affirming clinical effectiveness of ultraviolet light for the disinfection of ultrasound probes. UV-C irradiation of the probe surface showed a marked reduction of bacterial load, confirming its high disinfection capacity.

The Tru-Spectra endoscopy probe is designed to activate the probe surface upon placement inside the housing with inbuilt sensors to irradiate the surface of the probe and auto switch off upon designed time. Standard designed dose is 60 seconds with additional deeper dose of upto 200 seconds.



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SPECIFICATIONS OF UV LED ENDOSCOPE DISINFECTION SYSTEMS

Fluence Delivered	40mJ/cm ²	40mJ/cm ²
Microbial Inactivation	4 log >99.99%	4 log >99.99%
Exposure time	90Sec	130Sec
Ultrasound chamber dimension (LxWxH)	15cmx15cmx100cm	15cmx15cmx100cm
Application	Ultrasound	Ultrasound
Operating Voltage	8 VDC	8 VDC
System Power	22W	22W
Warranty	1 year	1 year
Wavelength	265-280nm	265-280nm



TruSpectra

EXPERIENCE THE FUTURE OF STHETHOSCOPE DISINFECTION

CONNECTING YOUR BUSINESS TO THE TECHNOLOGY RESOURCE YOU NEED FOR YOUR DISINFECTION APPLICATIONS



Common hospital acquired infection (HAI's) effects patients with certain risk factors that include previous hospitalization, recent antibiotic use, older age and weak immune systems. Apparently medical equipment and devices also play a central role for causing **healthcare associated infections (HCAI)**. The stethoscope is one of the most used device by medical personnel, and its and related aspects are therefore a crucial question of hygiene. **Most surveys show that 70-90% of physicians do not**

systematically disinfect their stethoscope after each examination. TruSpectra supports the ease of use of stethoscope which disinfects the stethoscope membrane during normal hospital activities.



Innovative, patented design automatic and sleek wearable UV LED device for the disinfection of the stethoscope

Stethoscope is designed for **MINIMUM 4 Log reduction**. Stethoscope disinfection unit is designed to fit in the pockets of medical doctors, surgeons, pediatrician

Time Productivity and quick intermediate 60 second of high level of disinfection after which the Stethoscope is ready to be used again for patient examination.

UV automated disinfection units provide simple, **Rapid, Reliable and Ecological disinfection** of the probe between each patient. UVC disinfection system which produces a dosage of UVC radiation sufficient to kill 99.99% pathogens in a simple fast and unique manner.

Portable, Long Lasting, Efficient light source, and high performance aerodynamic light housing with optimal optical source with in-built electronic controller system.



Exceptionally high UV Fluence and Irradiance, with lower losses and high thermal performance.

Compact Design, zero maintenance and hassle free environmental friendly instantaneous stethoscope disinfection



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SPECIFICATIONS OF UV LED STETHOSCOPE DISINFECTION SYSTEMS - ADULT & PEDIATRIC



Fluence Delivered	40mJ/cm2	40mJ/cm2	40mJ/cm2
Microbial Inactivation	4 log >99.9%	4 log >99.9%	4 log >99.9%
Exposure time	60Sec	60Sec	60Sec
Stethoscope chest diaphragm dimension	5.1cm	4.4cm	3.3cm
Application	Adult	Adult	Pediatric
Operating Voltage	8 VDC	8V DC	8V DC
System Power	3W	3W	2W
Dimensions in mm			
Warranty	1 year	1 year	1 year
Wavelength	265-280nm	265-280nm	265-280nm

The use of automatic and wearable UV-C device resulted practical and easy to use stethoscope for the health professionals. UV-C irradiation of the stethoscope membranes showed a marked reduction of bacterial load, confirming its high disinfection capacity.

The Tru-Spectra Stethoscope is designed to activate the stethoscope membranes upon placement inside the housing with inbuilt sensors to irradiate the membranes and auto switch off upon designed time. Standard designed dose is 60 seconds with additional deeper dose of 150 seconds.



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Verentia reserves the right to change the design and drawing in the best interest of the customer without any notice whatsoever

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