

# XLED<sup>®</sup>

Surgical Lighting Systems



**4-dimensional surgical lighting**

STERIS<sup>®</sup>





« At STERIS, we haven't tried to produce one lighting system to suit everybody but lighting systems adapted to each of your specialities »

**Jean-Marie L'Hégarat - R&D Director**

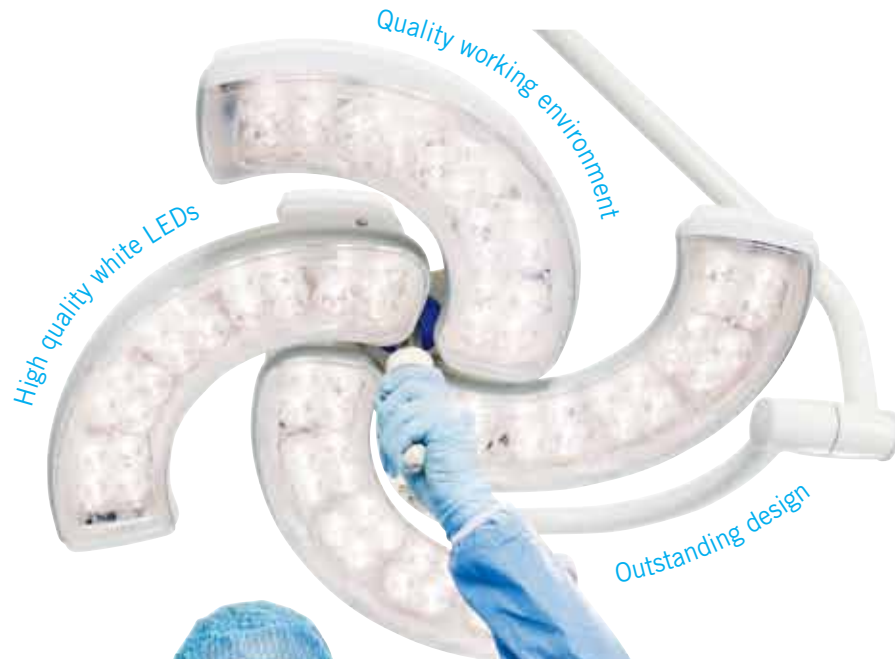


**reddot design award  
winner 2013**

# XLED® A NEW GENERATION OF SURGICAL LIGHTING SYSTEMS

With over a century of experience in the field of medical equipment, STERIS continues to offer innovating solutions to personnel in the hospital world.

**Our mission: useful innovation !**



XLED1 light head

XLED4 light head

XLED2 light head

XLED3 light head

## THE COMPLETE RANGE OF XLED® LIGHTING SYSTEMS

### A new outlook on lighting

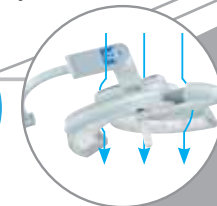
Our engineers have totally rethought surgical lighting with a **revolutionary concept: the spot**. This makes the XLED® range the most comprehensive surgical light offering on the market, from the single fixed spot to task-adjustable multi-spot systems covering the requirements of all surgical specialities.

Whatever the configuration, XLED® offers the ideal intensity and amount of light for each application.

### AN EXCLUSIVE DESIGN

#### Optimised laminar flow

The fluid and open shape of the XLED® allows it to optimise the laminar flow output... and thus contribute to patient safety.



# XLED® EXCEPTIONAL SURGICAL LIGHTING QUALITY



**XLED®**  
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## Why do we use white LEDs?

Light emitted by white LEDs remains constant: its properties do not change over time. White LED technology has now come of age and offers a wide range of benefits.

### • A simple and efficient system

White LEDs do not require recalibrating and, therefore, no expensive annual maintenance.

### • Excellent colour rendering

XLED® white LEDs guarantee precise colour rendering, a feature that is especially important as far as reds are concerned, in order to be able to identify tissue, vessels and bones etc. The different shades of red are very accurately rendered.



## Performance

The spot that makes up the XLED® range also provides better energy dissipation and thus helps to enhance LED longevity and maintain performances.

## XLED® OFFERS ALL THE BENEFITS OF LED TECHNOLOGY

### Prime choice LEDs

Not all LEDs are the same! STERIS has selected the best LEDs in order to guarantee excellent lighting quality:

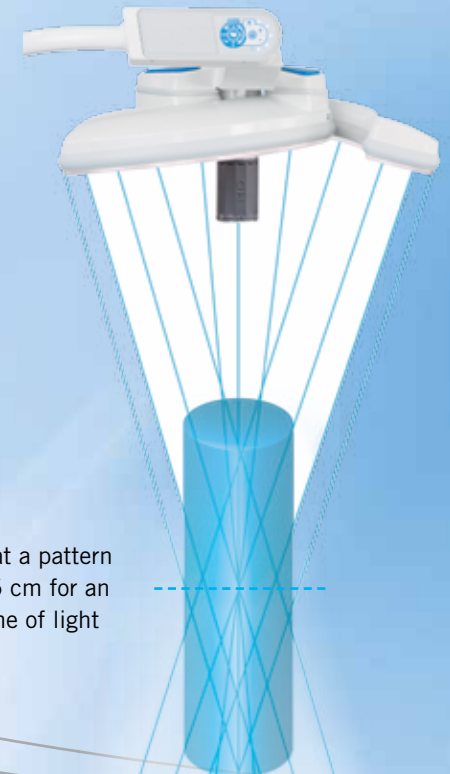
- Rated life  $\geq$  40,000 hours
- Excellent colour rendering index (Ra = 95) and particularly for the deep saturated red index (R9 = 97)
- Pattern homogeneity (no rainbow effects) for enhanced visual comfort
- Delivering up to 160,000 Lux at a pattern diameter of 25 cm

### Shadow reduction

The 20 LED array in each spot produces 20 patterns that are perfectly superimposed: if the operating field is partially obstructed, the area remains evenly lit.

### The exclusive Wavelens system

Available as standard on XLED3 and XLED4, this patented system is used to instantly adjust the pattern diameter through beam divergence. Adjustment is simple and intuitive: the light head does not need to be refocused or repositioned. Lighting quality is maintained.



160,000 Lux at a pattern diameter of 25 cm for an optimal volume of light

# XLED® A UNIQUE AND USEFUL INNOVATION



## 1 MANOEUVRABILITY

The XLED® spot design provides a lightweight and balanced system, making its positioning an easy task. There is a single cardanic version for operating theatres with low ceilings.



## 2 EASILY ADJUSTED

Dual control: directly accessible from the light head or from the wall-mounted unit (touch screen).



## 3 MAINTENANCE

XLED® is compatible with all existing procedures. The choice of materials and the quality of finishes are determining factors: smooth surfaces, silicon joints etc.



## WITH XTND® MAKE WAY FOR A FUTURE-READY OPERATING ROOM!

XTND® suspensions, designed and developed by STERIS, offer a wide range of flexible solutions. They adapt to your needs, for ever greater convenience and modularity.

### XTND®: An architectural solution for your operating rooms

Just one anchoring point is enough to mount a vast range of equipment (surgical lights, monitors, in-light or auxiliary arm cameras, etc.) in a compact space. The compactness of the suspension enables installation of the system even in low-ceiling rooms. The XTND® range also includes optional longer extension arms, for complete compatibility with hybrid operating rooms or rooms with laminar flow.

### XTND®: Flexibility

Any time after installation, add one or more additional spindles according to your needs.

### XTND®: Integrity of HD signals

STERIS XTND® introduces the latest technological innovations to preserve the integrity of HD signals. A new generation of rotating contacts offers less interconnections for optimized transmission of signals from your HD equipment.

### XTND®: Simple to install

XTND® is not only compatible with many existing installations (anchors and tubes), but its ease of installation and maintenance will also simplify the organisation of your operating room, with minimal downtime.

## SIMPLIFY THE PLANNING OF YOUR OPERATING THEATRE

### XTND®: the expertise of STERIS engineers

STERIS has decades of experience in operating theatre equipment, and has developed solid expertise in the field of operating theatre design and configuration. Our new S3D configuring tool, combined with our team of planners, will help you design and optimise the organisation of the equipment in your operating theatres. Thanks to the STERIS 3D software, visualizing the configuration of your future operating theatre is fast and user-friendly.



## FOCUS ON IMAGING

Operating room integration links medical imaging to audio and video routing, two of the fastest-developing technologies in the world. Harmony iQ® integration systems incorporate the latest advances in high-definition image management, bandwidth, and signal routing.

The XLED® HD in-light camera allows the medical team to watch the surgical procedure on surgical-grade monitors, specifically designed for the surgical environment. The videos can also be broadcast by videoconferencing for teaching purposes, for example.

The camera is controllable from:

- The light head
- The wall touch panel
- STERIS Harmony iQ® integration systems



Easy access to certain features from the control panel or directly from the light head yoke:

- Zoom
- Camera rotation
- Brightness control
- White balance
- Focus



The new XTND® suspension system combined with the XLED® HD in-light camera and the surgical-grade monitors provide impressive image quality, with **excellent vivid colour rendering.**



**The VuCapture™ digital recording system is a simple** and integrated solution for HD surgical video and still image capture and printing up to 1080p.

EACH SURGICAL PROCEDURE HAS ITS XLED® SOLUTION



An intensive care unit does not require the same type of lighting as an operating theatre or even a delivery room: the quantity and volume of light will vary considerably. Because it is modular, the XLED® surgical lighting range provides a precise solution to each need.

## XLED® Configuration

XLED4 / XLED2 HD camera-ready lighting systems - 2 monitors



- Cardiac surgery
- Thoracic surgery
- Vascular surgery

## XLED® Configuration

XLED3 / XLED3 HD camera-ready lighting systems - 1 monitor



- General surgery
- Gynaecological surgery
- Ophthalmic surgery
- Neurosurgery
- ENT surgery



- Up to 2 x 160,000 Lux of available light
- 25 to 30 cm pattern diameter (Wavelens technology)
- Shadow reduction
- Cold light: tissue-respectful
- Laminar flow compatible
- Ambient lighting as standard



### AMBIENT LIGHTING

Endoscopic procedures now form part of every specialty. The XLED® range meets this requirement with its standard ambient lighting. Its intensity is also adjustable.



## XLED® Configuration

XLED3 / XLED2 lighting systems



- ENT surgery
- Neurosurgery
- Orthopaedic surgery

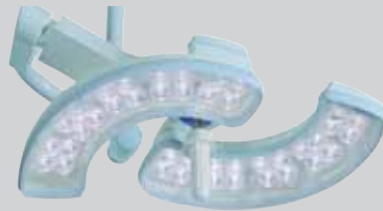


- Lightweight and manoeuvrable
- Ambient lighting as standard
- Laminar flow compatible
- Option of adapting a monitor holder and/or camera holder
- Optional HD camera

## XLED® Configuration

XLED2 lighting system

- Delivery rooms
- ENT / stomatology



- Up to 110,000 Lux intensity (from examination to procedure)
- 25 cm pattern size
- Available in single cardanic version

## XLED® Configuration

XLED1 lighting system

- Satellite light head
- Intensive care unit
- Emergency room
- Induction room
- Examination room



- The lighting intensity is appropriate to all applications, up to 90,000 Lux
- The spot is designed for a positioning avoiding any obstruction: the surgical area receives 100% of the light
- A 16 cm pattern diameter is ideal for examination room applications
- Optimal lighting for deep cavities

# XLED® TECHNICAL CHARACTERISTICS

	XLED1	XLED2	XLED3	XLED4
Number of LEDs	20	40	60	80
Maximum intensity at 1 m (Ec)**	90 000 Lux at a pattern diameter of 16 cm	110 000 Lux at a pattern diameter of 25 cm	160 000 Lux at a pattern diameter of 25 cm	160 000 Lux at a pattern diameter of 25 cm
Pattern diameter (d <sub>10</sub> )*	160 mm / 6"	250 mm / 10"	250-300 mm /10-12"	250-300 mm /10-12"
Light head size	490 mm / 19"	665 mm / 26"	695 mm / 27"	785 mm / 31"
Pattern characteristics	Small pattern	Fixed pattern	Wavelens as standard	Wavelens as standard
Colour temperature (Tk)*	4 400	4 400	4 400	4 400
CRI (Colour Rendering Index) - Ra*	95	95	95	95
R9 (deep saturated red colour index)*	97	97	97	97
Depth of field L1 + L2 (*) 2000 version at 20% Ec 2009 version at 60% Ec	1480 mm / 58" 620 mm / 24"	1230 mm / 48" 660 mm / 26"	1140 mm / 44" 690 mm / 27"	1050 mm / 41" 510 mm / 20"
Estimated LED service life	40 000 h	40 000 h	40 000 h	40 000 h
Camera-ready option	-	HD	HD	-

\* : Performances ±6% according to IEC60601-2-41

\*\* : Performances ±10% according to IEC60601-2-41



And even more accessories on  
[www.steris-lesindispensables.com](http://www.steris-lesindispensables.com)



## INSTALLATION

### Electricity supply

XLED® surgical lighting systems are easily installed in all premises, whether new or existing:

- Wall-mounted power module for quick and easy installation in operating theatres
- Wall control panel and remote power module for a more discrete installation

# STERIS: A SUSTAINABLE COMMITMENT

The STERIS Centre of Excellence brings together Sales, Administration, Marketing, Engineering, Research & Development and Manufacturing teams covering Europe, Middle East and Africa.

This structure controls the entire value chain for all products whether used in the operating theatre or for infection prevention.

## XLED®: AN ENERGY-EFFICIENT LIGHTING SYSTEM

Consuming a mere 85 Watts in its most powerful configuration and delivering 160,000 Lux, XLED® has a particularly low power consumption.

The production site in France, in partnership with proximity suppliers, has led to a noticeable reduction in the product's carbon footprint.

## MANUFACTURING IN EUROPE: STERIS' CHOICE

For STERIS, opting for manufacture in Europe was not a haphazard choice. It is part of our insistence on quality:

- Wholly controlling the quality of our output
- Capitalising on the knowledge and expertise of European engineers and technicians
- Integrating the best European suppliers
- Monitoring and reacting to the requests of our customers
- Reducing our ecological footprint



## STERIS, WORKING IN PARTNERSHIP WITH OPERATING THEATRES FOR 70 YEARS

With 6,000 employees worldwide, STERIS is a major player in the healthcare sector. As a partner of more than 25,000 customers in over 80 countries, STERIS is involved in every aspect of the operating theatre, offering a wide-ranging product line: operating tables, surgical lighting, distribution arms, and integration systems.

STERIS also supplies technologies that contribute to preventing infections via STERIS IPT (Infection Prevention Technology): washers, disinfection units, sterilisers, and consumables.



### STERIS OFFICES WORLDWIDE

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