4-dimensional surgical lighting
“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
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!**

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® 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.

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® 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 configurating 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.
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.
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

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

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

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- 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.
**XLED3 / XLED2 lighting systems**

- ENT surgery
- Neurosurgery
- Orthopaedic surgery

**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

**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

**XLED3 / XLED2 lighting systems**

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

**XLED2 lighting system**

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

**XLED1 lighting system**

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

<table>
<thead>
<tr>
<th></th>
<th>XLED1</th>
<th>XLED2</th>
<th>XLED3</th>
<th>XLED4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of LEDs</strong></td>
<td>20</td>
<td>40</td>
<td>60</td>
<td>80</td>
</tr>
<tr>
<td><strong>Maximum intensity at 1 m (Ec)</strong></td>
<td>90 000 Lux at a pattern diameter of 16 cm</td>
<td>110 000 Lux at a pattern diameter of 25 cm</td>
<td>160 000 Lux at a pattern diameter of 25 cm</td>
<td>160 000 Lux at a pattern diameter of 25 cm</td>
</tr>
<tr>
<td><strong>Pattern diameter (d₁₀)</strong></td>
<td>160 mm / 6”</td>
<td>250 mm / 10”</td>
<td>250-300 mm /10-12”</td>
<td>250-300 mm /10-12”</td>
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<tr>
<td><strong>Light head size</strong></td>
<td>490 mm / 19”</td>
<td>665 mm / 26”</td>
<td>695 mm / 27”</td>
<td>785 mm / 31”</td>
</tr>
<tr>
<td><strong>Pattern characteristics</strong></td>
<td>Small pattern</td>
<td>Fixed pattern</td>
<td>Wavelens as standard</td>
<td>Wavelens as standard</td>
</tr>
<tr>
<td><strong>Colour temperature (Tk)</strong></td>
<td>4 400</td>
<td>4 400</td>
<td>4 400</td>
<td>4 400</td>
</tr>
<tr>
<td><strong>CRI (Colour Rendering Index) - Ra</strong></td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
</tr>
<tr>
<td><strong>R9 (deep saturated red colour index)</strong></td>
<td>97</td>
<td>97</td>
<td>97</td>
<td>97</td>
</tr>
<tr>
<td><strong>Depth of field L₁ + L₂ (</strong>)**</td>
<td>1480 mm / 58”</td>
<td>1230 mm / 48”</td>
<td>1140 mm / 44”</td>
<td>1050 mm / 41”</td>
</tr>
<tr>
<td>2000 version at 20% Ec</td>
<td>620 mm / 24”</td>
<td>660 mm / 26”</td>
<td>690 mm / 27”</td>
<td>510 mm / 20”</td>
</tr>
<tr>
<td>2009 version at 60% Ec</td>
<td>1480 mm / 58”</td>
<td>1230 mm / 48”</td>
<td>1140 mm / 44”</td>
<td>1050 mm / 41”</td>
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<tr>
<td><strong>Estimated LED service life</strong></td>
<td>40 000 h</td>
<td>40 000 h</td>
<td>40 000 h</td>
<td>40 000 h</td>
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<tr>
<td><strong>Camera-ready option</strong></td>
<td>-</td>
<td>HD</td>
<td>HD</td>
<td>-</td>
</tr>
</tbody>
</table>

* : Performances ±6% according to IEC60601-2-41
** : Performances ±10% according to IEC60601-2-41

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**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

The XLED® surgical lighting is a Class I medical device. To use this equipment safely, carefully read the instructions in the user manual and on the labelling.

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