

# MERILED™

Surgical lights

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Better comfort and  
performance in  
the operating room





## New improved MeriLED for surgical procedures

Light plays an essential role in the operating room. Not only has the light a crucial effect on working ergonomics in general, in surgical procedures high-quality light is required to create as reliable visual information as possible of the area being operated on.

To meet the requirements of today's operating theatres, Merivaara offers a range of LED lights that help surgeons

perform the most challenging tasks. The new MeriLED is available in two different sizes, MeriLED L5 (160 klux) and MeriLED L3 (130 klux), suitable for different types of surgical procedures.

MeriLED is available in ceiling mounted models, in solo, duo and trio systems, and with HD camera and LCD monitors as optional features.

# MeriLED for better comfort and performance in the operating room

- High-quality white light with a colour rendering index of 94 Ra
- Special light function for endoscopic procedures and double selection of the colour temperature
- The field lit can be extended without affecting the light intensity
- Low power consumption and long lifetime
- Available with HD camera, remote control and monitor holding arms as optional features

## Why choose LED instead of halogen lights?

### Better comfort

LED technology provides infrared-free light which minimises the heat on the operated area and prevents the operated tissue from drying out thus providing better comfort for both the patient and the surgical team. LED lights can also easily be dimmed when lower light levels are required. Moreover, being smaller than halogen bulbs, LED reduces the overall weight of the lamp.

### Longer lifetime

LED lights are extremely durable and reliable the effective lifetime of the LED used in MeriLED being more than 50,000 hours. Depending on the frequency of usage, the lamp could therefore last up to ten years, that is, 50 times longer than a traditional halogen light without the need of replacing the bulbs.

### Sustainable solution

LED is a sustainable solution requiring less power consumption thus reducing both costs and the negative impact on the environment. Additionally, a LED lamp doesn't require bulbs to be frequently replaced.



## MeriLED L3 provides great performance in a compact size

When a smaller lamp is enough or required due to limited space, MeriLED L3 is the option.

MeriLED L3 provides white light, as well as adjustment of the illuminated operating field for each surgical procedure. It has 35 lenses split into 6 modules, each containing 5 LEDs providing 130,000 Lux altogether. L3 has endo-light mode and color temperature adjustment as standard, HD-camera as optional feature. The aluminium ring running around the dome allows easier positioning of the lamp.

MeriLED L3 is particularly suitable for plastic, endoscopic or day surgery; and as part of a duo or trio system.



## MeriLED L5 is designed for excellent performance requirements

In demanding surgical procedures, MeriLED L5 offers excellent visual access to the operated field.

MeriLED L5 provides also white light, as well as adjustment of the illuminated operating field for each surgical procedure. Additionally, it features also an endo light mode that facilitates endoscopic operations, as well as 3D lighting that help operating in cavities.

The light is pre-focused at different distances (from 80 cm to 200 cm), 160,000 Lux altogether. The control board provides double selection of colour temperature. The lamp can be rotated 360° with smooth movements.

MeriLED L5 is suitable for all types of surgeries.

## White light is the most natural light

The white light is imitating the most natural light available, the sun. White, monochromatic light work the best also in surgical procedures. The white light allows MeriLED to minimise the risk of surgeons perceiving variations in the colour temperature (°K) within the operating field and to prevent unnecessary coloured shadows

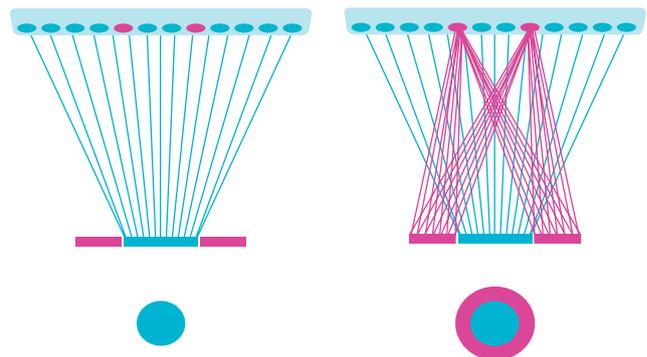


## Double yoke

MeriLED L3 and L5 lamp heads can optionally be equipped with double yoke, which enables more freedom of movement for the lampheads.

## Special lens for adjusting the illuminated field

MeriLED features an additional lens allowing the surgeon to expand or narrow the lit field up to 32 cm with 6,000 Lux at the edges without affecting the light intensity at the centre (Ec). This makes the light ideal for, e.g., thoracic and abdominal surgery, and caesarean births, where the surgeon must be able to operate in an extensive field lit with high intensity light.



## Deep 3D light for cavities

The centre of the lamp is fitted with an extra 9-LED module designed to reflect deep light. This means that the surgeon can operate with perfect 3D lighting in cavities, in particular. (Available in MeriLED L5 only)

## Better light in endoscopic surgeries

The endo LED function provides comfortable lighting during endoscopic surgery. When enabled, this function lights up a single module whose light intensity and colour temperature can be adjusted at will. (Available in MeriLED L5 only)

## Other features and benefits:

- Non-static and scratchproof glass protecting the light source
- Designed to enable uninterrupted laminar air flow
- Safe, hygienic and easy to clean
- Thorough testing guarantees total safety during use
- Optional features include HD camera, support monitor arm, wall control panel, and IR remote control

## Technical specifications

	MeriLED L5	MeriLED L3
Light intensity at 1 m distance (Ec)	160 Klx	130 Klx
Color temperature: double selection	4000 / 4500° K	4000 / 4500° K
Color rendering index (CRI)	Ra 94	Ra 94
No. of Leds	81	35
Light field diameter adjustable from – to – (cm)	26–40	23–32
Diameter adjustment	ELECTRONIC	ELECTRONIC
d <sub>10</sub> light field diameter where illuminance reaches 10% of Ec	260 mm	230 mm
d <sub>50</sub> light field diameter where illuminance reaches 50% of Ec	140 mm	120 mm
Depth of illumination (L1+L2) at 60%	52 cm	50 cm
Total radiated energy Ee where the illuminance reaches max level (W/m <sup>2</sup> )	435	404
Ratio between radiated energy Ee and illuminance Ec (mW/m <sup>2</sup> lx)	2,81	2,95
Average Led life	> 50.000 hours	> 50.000 hours

### ELECTRICAL DATA

Primary alternating voltage (V a.c.)	100 ÷ 240	100 ÷ 240
Secondary continue voltage (V d.c.)	24	24
Frequency (Hz)	50/60	50/60
Absorbed power (VA)	145	70
Control of the illuminance (%)	40–100	40–100
Endolight mode	Yes	Yes

### DIMENSIONS

Out reflector diameter (cm)	63	40
Useful lighting surface (cm <sup>2</sup> )	580	215

### OPTIONAL

Battery group with automatic charger	optional	optional
HD TVCC camera	optional	optional
IR remote control	optional	optional
Wall control panel	optional	optional
Arm and LCD monitor	optional	optional

- MeriLED surgical lights meet the requirements of standards IEC 60601-1, 60601-1-2, 60601-2-41, and comply with European Directives 93/42/EEC and 2007/47/EC.
- Products are CE-marked.
- Made by Merivaara Corp. in EC, Finland.





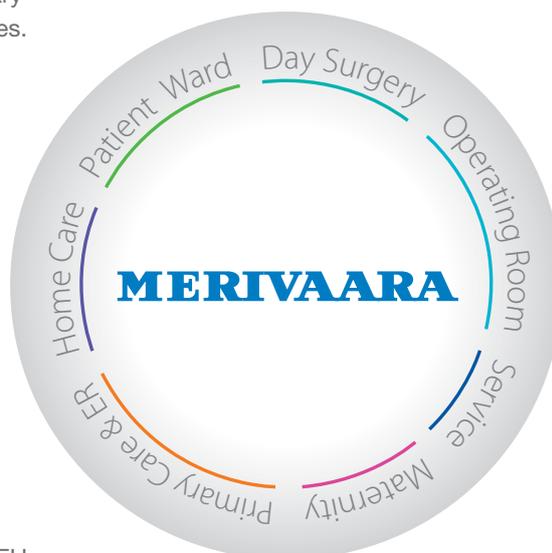
# Solutions for efficient physical patient flow and well-being

Merivaara provides a wide range of hospital-grade furniture such as operating tables, medical lights, examination tables, trolleys and stretchers for transportation and day surgery, as well as birthing and patient beds. Additionally, our new concepts include both revolutionary integrated management systems and after-sales services.

Our versatile solutions and product offering enable convenient and cost-effective physical patient flow within the hospital, in day surgery and health clinics, as well as in nursing homes and home care. Our priority is to enhance comfort and well-being of both patients and their caregivers.

Established in 1901, Merivaara has more than 100 years of experience in designing and manufacturing hospital-grade furniture. Today our products are highly appreciated by users in more than 120 countries thanks to their ease-of-use, durability and ergonomic design.

Merivaara's medical products are CE-labelled and the company's quality management system complies with EU directives for medical device. It is certified by DNV according to ISO 9001:2008 and ISO 13485:2003 standards. The company's environmental management system is ISO 14001:2004 certified.



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