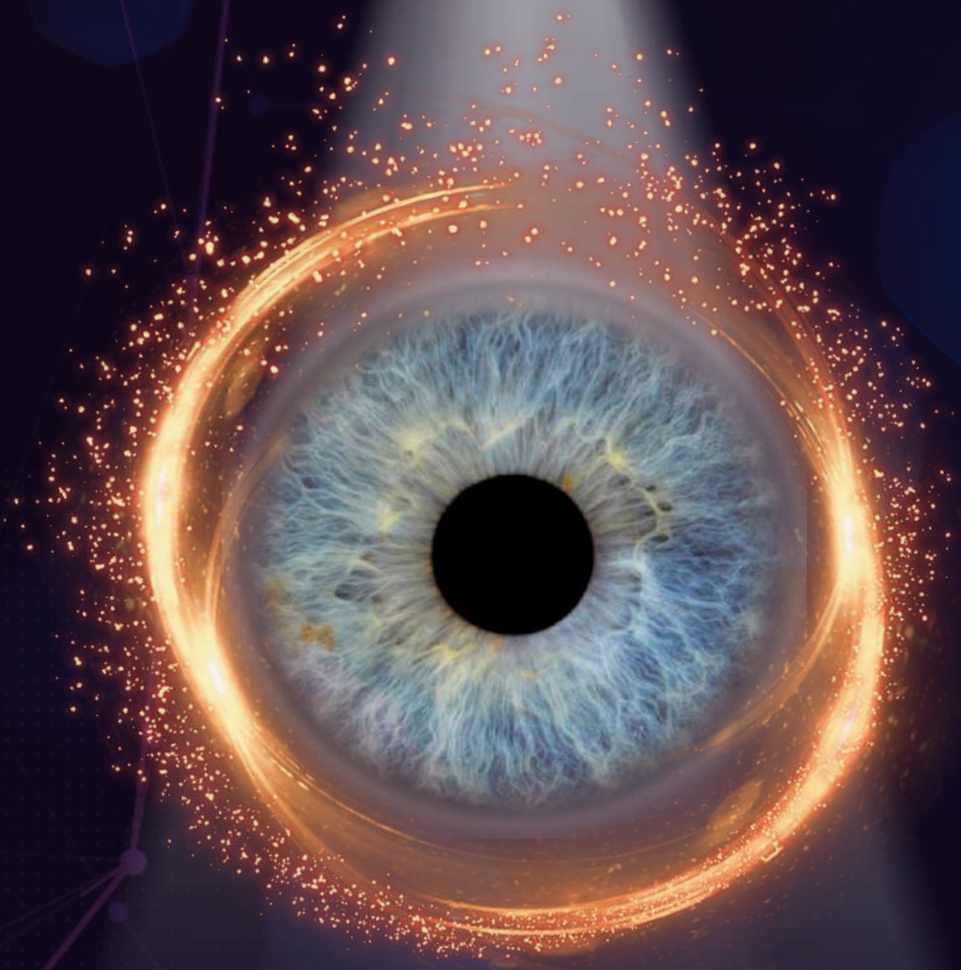
Etkin

TIBBİ CİHAZLAR



For more than seeing...

# General Catalogue

# Table of Contents


| | |
|---|---|
| Company Profile | 02 |
| Our History | 03 |
| Common Main Features | 04-05 |
| Surgical Lights Common Features | 06-07 |
| Accessories and Optional Features | 08 |
| Elite | 09-11 |
| Pergamon+ | 12-14 |
| Smyrna+ | 15-17 |
| Modular System | 18 |
| Anka+ | 19-21 |
| Kayra+ | 22-24 |
| Hera+ | 25 |
| Hera S+ | 26 |
| Hera+ / Hera S+ Technical Specifications | 27 |

# Company Profile

Turkey's First LED Based Surgical Lights Manufacturer

Etkin Tibbi Cihazlar was established in 1996 as a medical device sales and service company. Since its establishment, Etkin Tibbi Cihazlar has adopted high quality and trustworthy customer service as the company's main philosophy.

Etkin Tibbi Cihazlar started manufacturing and sales of the LED surgical lighting systems in 2012 and has become one of the renowned brands in the world.

In the Turkish market the company is a medical device importer and seller as well, and it performs in the areas of intensive care room equipment, operating room equipment supplies, radiology devices, anesthesia, surgery, gynecology, pediatrics and sterilization. Etkin Tibbi Cihazlar is a proud provider of high quality and trustworthy customer service and technical support for the health care institutions, with an expertise in serving the operating rooms and ICU rooms. Currently LED operation and surgical lights constitute the sole international business product line for exports.

# Our History

Turkey's First Surgical Lights Manufacturer

**1996** **Establishment of Etkin Tibbi Cihazlar**

**2010** "ETC Development Project" supported by Izmir Development Agency was concluded successfully.

**2011** "LED Based Surgical Examination Lighting System Project" supported by TÜBİTAK and "Ionze EDC Radiation Shielding Plate" supported by TÜBİTAK were successfully concluded.

**2012** "ETC Marketing and Technical Services Development Project" supported by KOSGEB has been successfully concluded. Factory investment has started in Çigli Atatürk Industrial Zone. Production ofLED surgical lights has started.

**2013** "Sahara LED Based Surgical Operation Light Project" supported by TÜBİTAK was successfully completed. It was among the "100 Fastest Growing Companies in Turkey" under the leadership of All World Network and TOBB and with the support of TEPAV. Sales teams were established and liaison offices were opened in Istanbul and Ankara.

**2014** Export process initiated.

**2015** It became the sole distributor of Hamilton Medical AG in Turkey.

**2016** DEPARK Teknokent office's activities started.

**2018** Within the scope of 1501 Program "Technology Development Project of LED Surgical Light" was initiated supported by TÜBİTAK .

# Common Main Features

## Shadowless Lighting

Ergonomic light head design feature minimizes the probable shadow of the head or shoulders of the surgical personnel interfering in the operation area.

## Vibration-Free Lighting

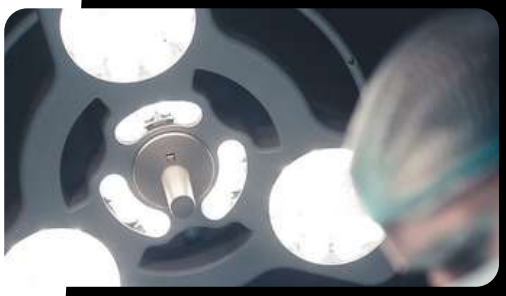
Ability to adjust flicker-free lighting without any changes in color.

## Low Power Consumption

Thanks to the fresnel structure, decrement of lighting is minimized and all power is focused on the lighting area.

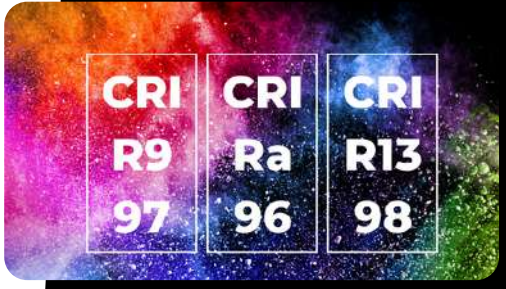
## Stable And Unchanging Lighting

In case of failure in any LED/Module, the other LEDs continue illumination maintaining the light intensity.



## High CRI Value

Thanks to its high CRI value, the operation area can be seen in its true color tone, tissues and organs can be quantified down to the finest details, and with its high CRI R9 and CRI R13 values, it provides contrast-rich and natural illumination for the surgery without compromising the true tones of the tissues.

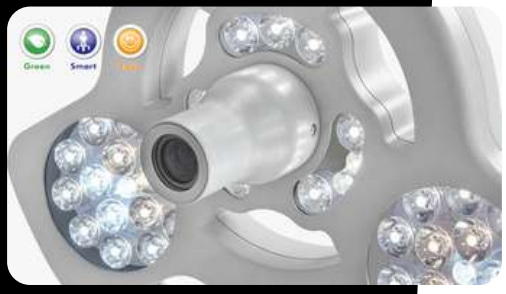



*Elite, Pergamon+, Smyrna+, Anka+, Kayra+ and Hera+ common features

# Common Main Features

## Internal & External Endoscopic Mode

External and internal endoscopy mode are used for comfortable lighting during closed operations such as endoscopy and laparoscopy.



## High Level Design: Environmentally Friendly-User Friendly-Ergonomic

High quality components are integrated with innovative design and successful engineering in all products for superior lighting and long-lasting high performance thanks to environmentally-friendly, user friendly, and ergonomy.

## IP54 Protection

Light heads are resistant to dust and liquid at IP54 level.

## The Latest Technology Led Chip

LED chip technology that provides a minimum life of 60,000 hours, regardless of color and light intensity used.

## Color Temperature Adjustment (Kelvin)

Ideal illumination is provided while color temperature can be adjusted according to tissue and operation type; eye fatigue, glare and similar negativities effects that may be experienced with conventional lights are inhibited.



*Elite, Pergamon+, Smyrna+, Anka+, Kayra+ and Hera+ common features

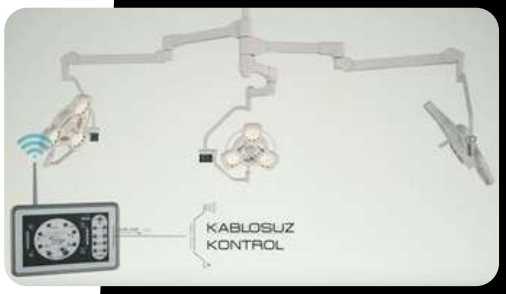
# Surgical Lights Common Features

## Integration Systems

Etkin Tibbi Cihazlar offers innovative and fully compatible surgical lights to be integrated with all solutions you needs.

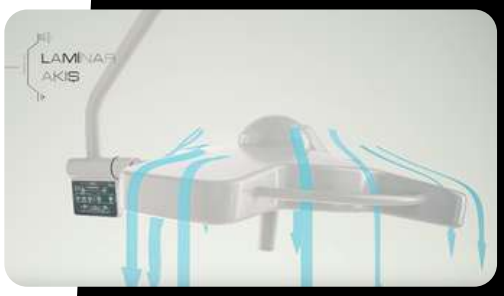
## Remote Control System

Lighting systems can be controlled from outside the operation area with a Wall Control Panel, Remote Control, and a mobile tablet. All heads can be controlled synchronously from a single control panel; Meanwhile, they can be controlled separately.




## Laminar Flow

Light head design provides ideal laminar airflow to manage air turbulence to minimize bacterial contamination.




## DUCOP®-Double Sided Control Panel

This feature enables bilateral use of the control panel without the necessity of making any changes on the location of the operation team members. The selected side can be used for camera or light control and/or can be used for both options at the same time.

*Elite, Pergamon+, Smyrna+ common features

# Surgical Lights Common Features

## UHD/FULL HD Camera Integration

Uninterrupted high resolution surgical image of 3840x2160 or 1920x1080 transfer to all imaging devices is provided for the purpose of recording and training.

## Camera: Perfect Image And Wireless Transmission

Wireless camera feature combines existing Full HD and Ultra HD camera technology with the advantage of encrypted and wireless communication.

The high-resolution images can then be transmitted to a main receiver or multiple installers without the need for any additional cables. Camera features also be controlled from wall control panel or a tablet.

## Touch Control Panel

With the control panel option, where camera can also be controlled, there is no need for an additional camera control unit. Durability is ensured without sacrificing ease of use with the uniquely designed control panel consisting of touch-sensitive buttons.

## Wireless Camera And Camera Infrastructure

With its camera infrastructure and wireless camera technology, the systems is ready to be used without the need for any equipment necessary for assembly in the installation and removal of the camera. Lights with camera can be equipped with sterilizable handles.



*Elite, Pergamon+, Smyrna+ common features

# Accessories

UHD(4K) Camera

Full HD Camera

Sterilizable Handle

Sterilizable Camera Cover

Wall Control Panel (Wireless)

Monitor Carrier Arm

Medical Monitor

Remote Control

Battery

Recorder

Conventor

# Optional Features

Wireless Camera

DUCOP

Customizable User
Interface Memory Function

Automatic Light Field Management (ALM)

External Endo Mode

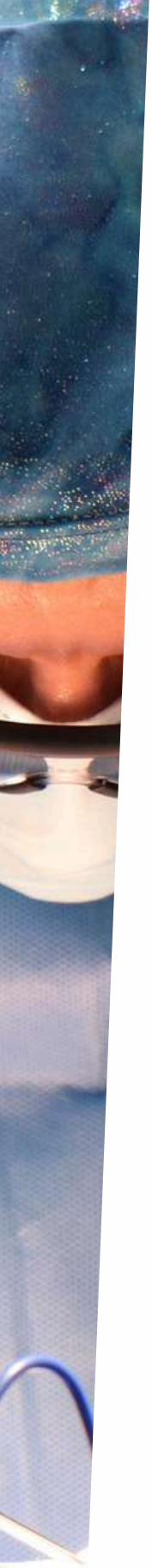
Color Temperature Adjustment (Kelvin)

Automatic Shadow management (ASM)

Sterile Control With Multifunctional Handle

Operation Area Control Function

Synchronization



# ETC Elite

SERIES

Elite Series operating lights provide solutions with various head mounting styles. Elite series can provide 160,000 lux illumination with minimum power consumption through high energy efficiency.

**Sterilizable Handle**
Can be sterilized at 134°C in autoclave

**IP 54**
Light heads are resistant to dust and liquid at IP54 level.

## Excellent Lighting and High Performance

Elite Series surgical light, which is the first series been produced by Etkin Tibbi Cihazlar and exported to the international market, attracts attention with its unique control panel, low power consumption, flicker-free illumination, high CRI value (>97), and color temperature adjustment.

### Remote Control System

Light systems can be controlled from outside the operation area with the Wall Control Panel, Remote Control, and a mobile or tablet.

### UHD/FULL HD Camera

Uninterrupted high resolution image transfer of 3840x2160 or 1920x1080 to all imaging devices is provided for the purpose of recording and training.

### Wireless Camera and Camera Infrastructure

With its camera infrastructure and wireless camera technology, the systems is ready to be used without the need for any equipment for assembly in the installation and removal of the camera. Lights with camera can be equipped with sterilizable handles.

Full HD Medical Camera / Ultra HD Camera inside customized protective case

A sterilizable case is used to protect the camera and avoid decontamination during surgeries.

## The ideal solution for narrow surgical area

Elite Series LED surgical lights provide significant support to the surgeon in narrow fields compared to other surgical lights with their manually adjustable 11-18 cm spot setting via LED modules movement, offering shadow-free illumination in areas where surgeon intervene in neurosurgery and general surgery operations.

All values conform to IEC 60601-2-41. Subject to technical and design changes without notice. Light values are subject to a measurement tolerance of ±10 %. * In accordance with IEC 60601-2-41 the max. illuminance must not exceed 160,000 lx. The measurement tolerance is therefore only -10 %. All values conform to IEC 60601-2-41. Subject to technical and design changes without notice. Light values are subject to a measurement tolerance of ±10 %. * In accordance with IEC 60601-2-41 the max. illuminance must not exceed 160,000 lx. The measurement tolerance is therefore only -10 %

# Elite Series
## Technical Specification

| Model | Elite |
|---|---|
| Type | LED |
| Light Intensity | 130.000 lux - 160.000 lux |
| Light Intensity Adjustment Level | %20-%100 10 steps*-From Control Panel |
| Color Temperature (K) | 3.800K-4.800K*- From Control Panel |
| Color Temperature Adjustment Level | 3 Steps* Manual / 5 Steps* Motorized |
| Head Diameter | 65 cm |
| Lighthead Material | Aluminum, Antibacterial (Smooth Surfaces, Curved Corners) |
| Spot Adjustment | Manual / Motorized |
| Spot Diameter | 11-18 cm |
| Number of LEDs | 58 LEDs |
| Led Lifetime | >60.000 hours |
| CRI Ra | > 96 |
| CRI R9 | > 97 |
| Illumination Depth(L1+L2)-20% | > 110 cm |
| Illumination Depth(L1+L2)-60% | > 50 cm |
| Temperature increase at the sugeon's head | < 1 °C |
| Increased temperature in the operating room area | < 1 °C |
| Power Consumption | 40 W |
| Laminar Flow Compatibility | Yes |
| Resistance to Dust and Water | Yes, IP54 |
| Radiant Energy | < 3,5 mW/m² Lux |
| Endoscopy Mode | Yes |

## Accessories

## Optional Features

All values conform to IEC 60601-2-41. Subject to technical and design changes without notice. Light values are subject to a measurement tolerance of ±10 %. * In accordance with IEC 60601-2-41 the max. illuminance must not exceed 160,000 lx. The measurement tolerance is therefore only -10 %. All values conform to IEC 60601-2-41. Subject to technical and design changes without notice. Light values are subject to a measurement tolerance of ±10 %. * In accordance with IEC 60601-2-41 the max. illuminance must not exceed 160,000 lx. The measurement tolerance is therefore only -10 %

# ETC Pergamon +

SERIES

We have integrated innovative solutions that improve working conditions in the operating room into Pergamon+ series.

**Sterilizable Handle**
Can be sterilized at 134°C in autoclave

**IP 54**
Light heads are resistant to dust and liquid at IP54 level.

## High User Comfort with Automatic Spot and High Lighting Depth

Pergamon+ series offers the option of automatically correcting any distortion of circular homogeneity in the spot that may be caused by the distance to the surgical field. With its wide spot scale and high illumination depth, it provides the most suitable focal diameter and illumination comfort for all surgical types.

All Pergamon+ models have the feature of three spot adjustment as Wide, Mid, and Narrow field size via control panel. This adjustment can be done in Pergamon+ E series as electronically, while in Pergamon+ X this adjustments are both electronically and motorized. In Pergamon+ XO, as an advance model, besides these two type of adjustment, Automatic Light Filed Management Sensor (ALM) is integrated.

## Remote Control System

Light systems can be controlled from outside the operation area with the Wall Control Panel, Remote Control and a mobile or tablet.

## UHD/FHD Camera

Uninterrupted high resolution image transfer of 3840x2160 or 1920x1080 to all imaging devices is provided for the purpose of recording and training.

Full HD Medical Camera / Ultra HD Camera inside customized protective case

A sterilizable case is used to protect the camera and avoid decontamination during surgeries.

## Wireless Camera and Camera Infrastructure

With its wireless camera infrastructure and camera technology, the systems can be used without the need for any equipment for assembly in the installation and removal of the camera. Lights with camera can be equipped with sterilizable handles.

## Automatic Light Field Management (ALM)

It allows automatic fixation of the desired spot width above and below 1 meter (0.6m-1.5m).

CONSISTENT ILLUMINATED FIELD

## HIGH Illumination DEPTH (L1+L2)

Pergamon+ series, with illumination depth value (L1+L2)-20% > 140 cm, ensures that light beams reach the deepest cavities of the surgery area in a homogeneous manner with the synchronized movement of the modules. This feature can be reached also manually with handles of Pergamon+ X series for users who are accustomed to conventional systems. In Pergamon+ XO series which have a higher level of technological hardware and software than conventional system, the automatic spot adjustment feature via distance sensor provided perfect operation in narrow and deep operation areas without the need for repositioning of the light.

## AUTOMATIC Light Field Management (ALM)

The desired spot width above and below 1 meter (0.5m-1.9m) is automatically fixed. If the normal working distance is changed above or below 1 meter, automatic adjustment of the spot width is provided with the sensor technology (ALM) in the Pergamon+ XO series. Without the need to reposition the operating head or manually adjust the spot during surgery, the surgeon is enabled to concentrate on the operating field and work in consistent, homogeneous lighting conditions at all times.

All values conform to IEC 60601-2-41. Subject to technical and design changes without notice. Light values are subject to a measurement tolerance of ±10 %. * In accordance with IEC 60601-2-41 the max. illuminance must not exceed 160,000 lx. The measurement tolerance is therefore only -10 %. All values conform to IEC 60601-2-41. Subject to technical and design changes without notice. Light values are subject to a measurement tolerance of ±10 %. * In accordance with IEC 60601-2-41 the max. illuminance must not exceed 160,000 lx. The measurement tolerance is therefore only -10 %

# Pergamon+ Series
## Technical Specifications

| Model | Pergamon+ E | Pergamon+ X / Pergamon+ XO |
|---|---|---|
| Type | LED | LED |
| Light Intensity | 130.000 lux - 160.000 lux | 130.000 lux - 160.000 lux |
| Light Intensity Adjustment Level | %25-%100 10 Steps*-From Control Panel | %25-%100 10 Steps*-From Control Panel |
| Color Temperature (K) | 3.500K-5.000K*- From Control Panel | 3.500K-5.000K*- From Control Panel |
| Color Temperature Adjustment Level | 5 Steps | 5 Steps |
| Head Diameter | 65 cm | 65 cm |
| Lighthead Material | Aluminum, Antibacterial | Aluminum, Antibacterial |
| Spot Adjustment | Electronic | Electro-motorized |
| Spot Diameter | 16-29 cm | 15-30 cm |
| Number of LEDs | 69 LEDs | 69 LEDs |
| Led Lifetime | >60.000 hours | >60.000 hours |
| CRI Ra | > 96 | > 96 |
| CRI R9 | > 97 | > 97 |
| Illumination Depth(L1+L2)-20% | > 91 cm | > 140 cm |
| Illumination Depth(L1+L2)-60% | > 61 cm | > 80 cm |
| Temperature increase at the sugeon's head | < 1 °C | < 1 °C |
| Increased temperature in the operating room area | < 1 °C | < 1 °C |
| Power Consumption | 80 W | 80 W |
| Laminar Flow Compatibility | Yes | Yes |
| Resistance to Dust and Water | Yes, IP54 | Yes, IP54 |
| Radiant Energy | < 3,5 mW/m² Lux | < 3,5 mW/m² Lux |
| Endoscopy Mode | Yes | Yes |

## Accessories

## Optional Features

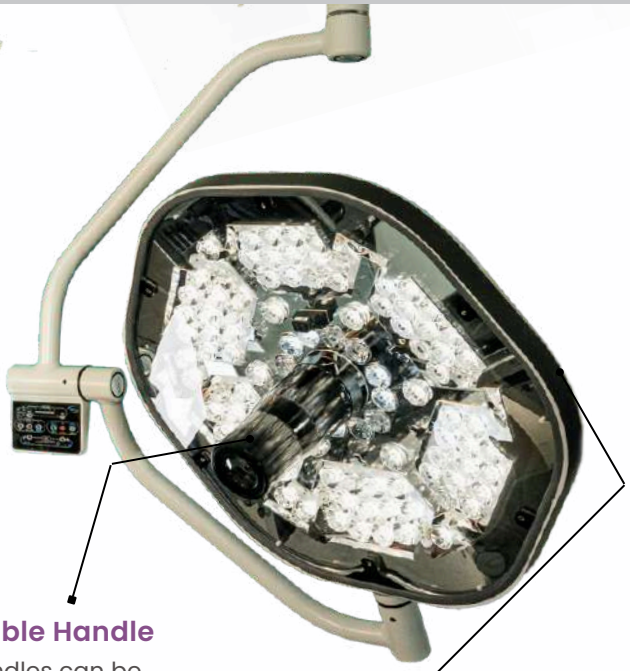
All values conform to IEC 60601-2-41. Subject to technical and design changes without notice. Light values are subject to a measurement tolerance of ±10 %. * In accordance with IEC 60601-2-41 the max. illuminance must not exceed 160,000 lx. The measurement tolerance is therefore only -10 %. All values conform to IEC 60601-2-41. Subject to technical and design changes without notice. Light values are subject to a measurement tolerance of ±10 %. * In accordance with IEC 60601-2-41 the max. illuminance must not exceed 160,000 lx. The measurement tolerance is therefore only -10 %

# ETC Smyrna+

SERIES

## Ultimate Lighting and Surgical Efficiency with the Most Innovative Features

Smyrna+ series has been developed based on the idea that more successful surgeries can be performed providing excellence lighting. With the most powerful LED technology, shadow-free illumination, and the integration of the most innovative features that maximize working conditions, this series allows surgeons to perform comfortable and successful surgeries.



**Sterilizable Handle**
The handles can be sterilized in an autoclave at 134°C.

**IP 54**
Lighting heads are resistant to dust and liquid at IP54 level

## Perfect Operation Experience with Innovative Surgical Light Infrastructure

Smyrna+ Series surgical lights, which were designed using smart sensor technologies in line with all professional experience and user feedback in the field of surgical light, offer superior performance in operation continuity with its Automatic Light Field Management (ALM), Automatic Shadow Management (ASM) and 3 independent microcontrollers in its technology.

In addition to all the features been offered in our other surgical lighting series , in Smyrna+ Series these features can be maximized; With its Illumination Depth value (L1+L2-20%) measured above 183 cm, it has significantly surpassed all its competitors in the international market.

## Remote Control System

Light systems can be controlled from outside the operation area with the Wall Control Panel, Remote Control, and a mobile or tablet.

## UHD/FHD Camera

Uninterrupted high resolution image transfer of 3840x2160 or 1920x1080 to all imaging devices is provided for the purpose of recording and training.

Full HD Medical Camera / Ultra HD Camera inside customized protective case

A sterilizable case is used to protect the camera and avoid decontamination during surgeries.

## Wireless Camera and Camera Infrastructure

With its camera infrastructure and wireless camera technology, the systems is ready to be used without the need for any equipment for assembly in the installation and removal of the camera. Lights with camera can be equipped with sterilizable handles.

## Automatic Shadow Management (ASM)

Any obstacles that will affect the illumination efficiency between the operating light head and the operation area are detected by the sensors and shadow formation and loss of light intensity are prevented.

## Automatic Light Field Management(ALM)

It allows automatic fixation of the desired spot width above and below 1 meter (0.6m-2.3m).

## Automatic Light Field Management (Alm) and High Illumination Depth

Within Smyrna+ series and Pergamon+ series, the ALM feature has been taken as an advance level. In this way, the light head can provide the automatic Light Field feature even if it is closer and/or farther away from the operation area, and the operating range is extended. Improving the working range has offered a high-level illumination depth of 185 cm, thus ensuring that even the deepest cavities within the illumination area are illuminated homogeneously, offering the user the highest level of viewing angle.

## Automatic Shadow Management (ASM)

Thanks to the 6 sensors used in Automatic Shadow Management (ASM) and the hexagonal structure of the Smyrna+ series, possible shadowing that may occur due to the user blocking any LED Module during operation is prevented. Homogeneous light and focus structure are maintained by sending light beams of higher light intensity to the lighting area of other modules.

① Blocked light beam

② Spot compensated by remaining light beams

All values conform to IEC 60601-2-41. Subject to technical and design changes without notice. Light values are subject to a measurement tolerance of ±10 %. * In accordance with IEC 60601-2-41 the max. illuminance must not exceed 160,000 lx. The measurement tolerance is therefore only -10 %. All values conform to IEC 60601-2-41. Subject to technical and design changes without notice. Light values are subject to a measurement tolerance of ±10 %. * In accordance with IEC 60601-2-41 the max. illuminance must not exceed 160,000 lx. The measurement tolerance is therefore only -10 %

# Smyrna+ Series
## Technical Specifications

| Model | Smyrna+ |
|---|---|
| Type | LED |
| Light Intensity | 130.000 lux - 160.000 lux (1m) |
| Light Intensity Adjustment Level | %20-%100 10 steps*-From Touch Control Panel |
| Color Temperature (K) | 3.500K - 5.000 K - 5 step*-From Touch Control Panel |
| Color Temperature Adjustment Level | 5 steps* |
| Head Diameter | 70 cm |
| Lighthead Material | Aluminum, Antibacterial (Smooth surfaces, Curved Corners) |
| Spot Adjustment | By the handle, Electro-motorized |
| Spot Diameter | 15-32 cm |
| Number of LEDs | 108 LEDs |
| Led Lifetime | >60.000 hour |
| CRI Ra | > 96 |
| CRI R9 | > 97 |
| Illumination Depth(L1+L2)-20% | > 183 cm |
| Illumination Depth(L1+L2)-60% | > 103 cm |
| Temperature increase at the sugeon's head | < 1 °C |
| Increased temperature in the operating room area | < 1 °C |
| Power Consumption | 80 W |
| Laminar Flow Compatibility | Yes |
| Resistance to Dust and Water | Yes, IP54 |
| Radiant Energy | < 3,6 mW/m² Lux |
| Endoscopy Mode | Yes |

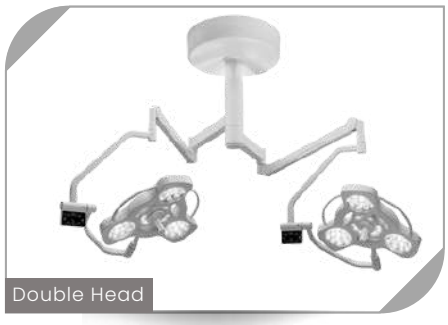
## Accessories

## Optional Features

All values conform to IEC 60601-2-41. Subject to technical and design changes without notice. Light values are subject to a measurement tolerance of ±10 %. * In accordance with IEC 60601-2-41 the max. illuminance must not exceed 160,000 lx. The measurement tolerance is therefore only -10 %. All values conform to IEC 60601-2-41. Subject to technical and design changes without notice. Light values are subject to a measurement tolerance of ±10 %. * In accordance with IEC 60601-2-41 the max. illuminance must not exceed 160,000 lx. The measurement tolerance is therefore only -10 %

Our Surgical Lights offer solutions for all lighting needs with various mounting styles. Ceiling mounted lighting systems can be configured with single head, double head, triple head, quad head and an additional monitor arm.

Wall Mounted


Double Head

Triple Head

Mobile

Double Head + Monitor Arm

Triple Head + Monitor Arm

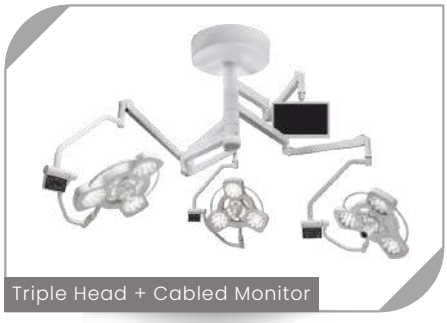
Ceiling Mounted

Double Head + Wall Mounted Monitor

Triple Head + Wall Mounted Monitor

Single Head+ Monitor On The Arm

Double Head + Cabled Monitor


Triple Head + Cabled Monitor

Low Ceiling Hight (LCH)

# ETC **Anka+**

SERIES

Anka+ Series which are categorized as minor operation lights, have become indispensable for surgeons in small operations thanks to their mounting variety, user-friendly design and high energy efficiency. Anka+ minor operation lights can be used in wide ranges namely as hospitals, veterinary, dermatology, plastic surgery, and gynecology clinics.

**Sterilizable Handle**
The handles can be sterilized in an autoclave at 134°C.

**IP 54**
Light heads are resistant to dust and liquid at IP54 level.

## Superior Performance in Minor and Critical Surgeries

Anka+ minor operation lights series are compact operation lights that provide illumination levels of 100,000 lux, 110,000 lux and 120,000 lux, and 160,000 lux which are suitable for small critical operations. Anka+ series, with IP54 protection, have features that can meet all needs of a minor surgery. Thanks to the optional battery unit, continuity of operation at maximum lighting intensity for up to 6 hours can be provided.

## Different Control Panel Options

Upon to user's demand, the light can be provided with any of the 3 different unique control panels .

## FULL HD Camera

Uninterrupted high resolution image transfer of 840x2160 or 1920x1080 to all imaging devices is provided for the purpose of consultancy and training.

## 6 or 10 hours battery back up unit

In case of a power outage during the operation, the system can automatically switch from main to battery without any lighting interruption. Additionally, battery status and power supply information are shown on the Large Information Screen.

## Multifunctional Control Panel

- On and Off
- Klevin Adjustment
- Spot Size Adjustment
- Light Intensity Adjustment
- Light Intensity Adjustment Endo Mode Activation

## Anka+ Series Configurations

Mobile

Wall Mounted

Single Head

Double Head

# Anka+ Series
## Technical Specifications

| Model | Anka+ |
|---|---|
| Type | LED |
| Light Intensity | 100.000-110.000-120.000 -160.000 lux (1m) |
| Light Intensity Adjustment Level | %20-%100 10 Steps*-Via Touch Control Panel |
| Color Temperature (K) | 3.800K - 4.800 K - 3 Steps*-Via Touch Control Panel |
| Color Temperature Adjustment Level | 3 Steps* Mobile-Wall/ 5 Steps* Ceiling |
| Head Diameter | 37 cm |
| Lighthead Material | Aluminum, Antibacterial (Smooth surfaces, Curved Corners) |
| Spot Adjustment | Touch Control Panel - Electronic |
| Spot Diameter | 19-31 cm |
| Number of LEDs | 55 LEDs * Mobile/Wall / 54 LED* Ceiling |
| Led Lifetime | >60.000 hours |
| CRI Ra | > 96 |
| CRI R9 | > 97 |
| Illumination Depth(L1+L2)-20% | > 203 cm |
| Illumination Depth(L1+L2)-60% | > 140 cm |
| Temperature increase at the sugeon's head | < 1 °C |
| Increased temperature in the operating room area | < 1 °C |
| Power Consumption | 58 W |
| Laminar Flow Compatibility | Yes |
| Resistance to Dust and Water | Yes, IP54 |
| Radiant Energy | < 3,5 mW/m² Lux |
| Endoscopy Mode | Yes |

## Accessories

## Optional Features

All values conform to IEC 60601-2-41. Subject to technical and design changes without notice. Light values are subject to a measurement tolerance of ±10 %. * In accordance with IEC 60601-2-41 the max. illuminance must not exceed 160,000 lx. The measurement tolerance is therefore only -10 %. All values conform to IEC 60601-2-41. Subject to technical and design changes without notice. Light values are subject to a measurement tolerance of ±10 %. * In accordance with IEC 60601-2-41 the max. illuminance must not exceed 160,000 lx. The measurement tolerance is therefore only -10 %

# ETC **Kayra+**

SERIES

**IP 54**

Lighting heads are resistant against dust and liquid at IP54 level.

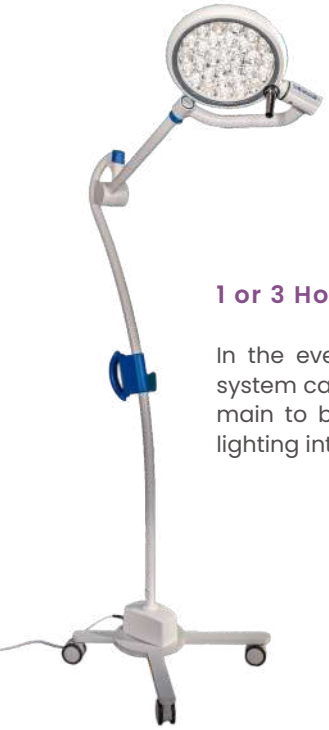
**Sterilizable Handle**

The handle can be sterilized in an autoclave at 134°C.

Kayra+ Series lights are high-end examination lighting systems that provide 80,000 lux illumination at a distance of 1 meter. Their high CRI value and color temperature adjustment features enable them to be used for minor operations when necessary.

## Powerful Lighting Solution in Small and Crowded Treatment and Examination Areas

It is offered as wall-mounted, ceiling-mounted and mobile version. This series provides the perfect solution in areas such as hair transplantation centers, dental clinics, aesthetics, and beauty centers. Mobile Kayra+ systems with optional 3-hour battery are the perfect portable lighting system for clinics looking for more than a ordinary examination light.



### 1 or 3 Hours Battery Backup Unit

In the event of a power outage, the system can automatically switch from main to battery without causing any lighting interruption.

### Multifunctional Control Panel

- On an Off
- Klevin Adjustment
- Spot Size Adjustment
- Light Intensity Adjustment
- Light Intensity Adjustment
  Dental Mode Activation

## Kayra+ Series Configurations

Mobile

Wall Mounted

Single Head

Double Head

# Kayra+ Series
## Technical Specifications

| Model | Kayra+ |
|---|---|
| Type | LED |
| Light Intensity | 50.000 - 80.000 lux - 100.000 lux (1m) |
| Light Intensity Adjustment Level | %20-%100 10 Steps*-Via Touch Control Panel |
| Color Temperature (K) | 3.800K - 4.800 K - 3 Steps*-Via Touch Control Panel |
| Color Temperature Adjustment Level | 3 Steps*- Via Touch Control Panel |
| Head Diameter | 29 cm |
| Lighthead Material | Aluminum, Antibacterial (Smooth surfaces, Curved Corners) |
| Spot Adjustment | Via Touch Control Panel - Electronic |
| Spot Diameter | 15-25 cm |
| Number of LEDs | 31 LEDs |
| Led Lifetime | >60.000 hours |
| CRI Ra | > 96 |
| CRI R9 | > 97 |
| Illumination Depth(L1+L2)-20% | > 185 cm |
| Illumination Depth(L1+L2)-60% | > 125 cm |
| Temperature increase at the sugeon's head | < 1 °C |
| Increased temperature in the operating room area | < 1 °C |
| Power Consumption | 26 W |
| Laminar Flow Compatibility | Yes |
| Resistance to Dust and Water | Yes, IP54 |
| Radiant Energy | < 3,5 mW/m² Lux |
| Endoscopy Mode | Yes |

## Accessories

## Optional Features

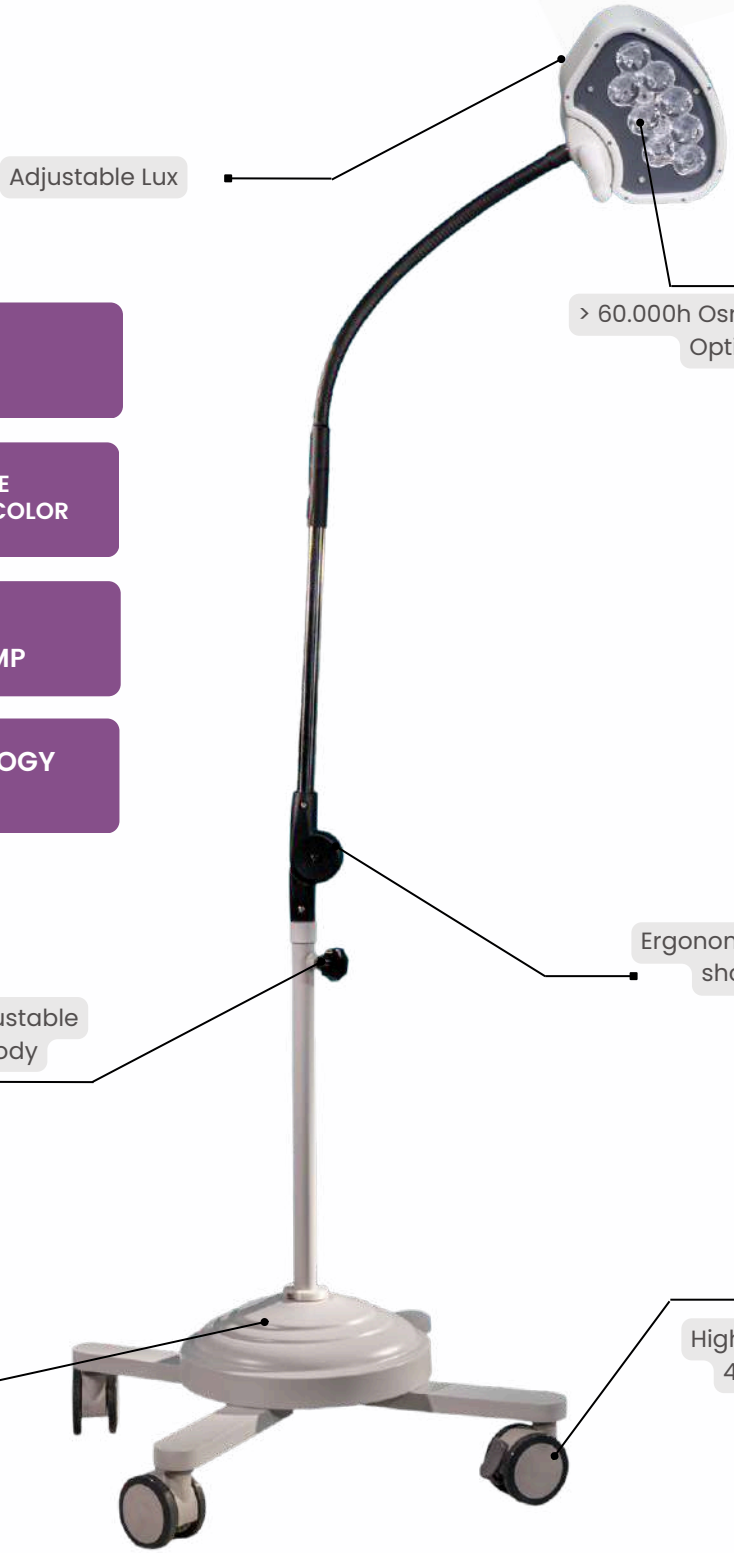
All values conform to IEC 60601-2-41. Subject to technical and design changes without notice. Light values are subject to a measurement tolerance of ±10 %. * In accordance with IEC 60601-2-41 the max. illuminance must not exceed 160,000 lx. The measurement tolerance is therefore only -10 %. All values conform to IEC 60601-2-41. Subject to technical and design changes without notice. Light values are subject to a measurement tolerance of ±10 %. * In accordance with IEC 60601-2-41 the max. illuminance must not exceed 160,000 lx. The measurement tolerance is therefore only -10 %

# ETC Hera+

SERIES

**Powerful lighting solution with small size lighting**

- **LOW POWER CONSUMPTION**
- **HIGH CRI VALUE: SEE TEXTURES IN TRUE COLOR**
- **MORE THAN AN EXAMINATION LAMP**
- **LATEST TECHNOLOGY LED CHIP**



# ETC **Hera S+**

SERIES

**Solution to small and crowded treatment and examination areas providing strong lighting**

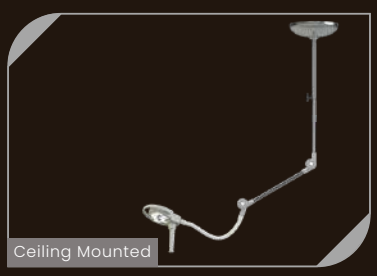
# Hera+/Hera S+ Series
## Technical Specifications

| MODEL | HERA+ | HERA S+ 40 | HERA S+ 60 |
|---|---|---|---|
| Light Intensity (Lux) (0.5m) | 60.000 lux | 40.000 lux | 60.000 lux |
| Color Rendering Index CRI Ra | >96 | >96 | >92 |
| Color Temperature (Kelvin) | 4.250 +- 10% | 4.500 K +-10% | 6.500 K +-10% |
| Light Intensity Level Adjustment | Fixed or %50-%100 adj. option | Fixed or %50-%100 adj. option | Fixed or %50-%100 adj. option |
| Number of LED | 10 LEDs | 7 LEDs | 7 LEDs |
| Spot Diameter (0,5m) | 15 cm | 18 cm | 18 cm |
| Power Consumption (W) | 12W | 10 W | 14 W |
| LED Lifetime (h) | >60.000 | 60.000 | 60.000 |
| Working Distance (cm) | 40-100 | 30-100 | 30-100 |
| Integrated on/off switch | Yes | Yes | Yes |
| Minimum 2 hours battery | Yes(Optional) | Yes(Optional) | Yes(Optional) |
| Automatic switch to battery during power outage | Yes(Optional) | Yes(Optional) | Yes(Optional) |
| Light Head Size (cm) | 24 cm | 9.9 cm | 9.9 cm |

## Hera+ Configuration

Mobile

Wall Mounted


Ceiling Mounted

Rail Mounted

## Hera S+ Configuration

Mobile

Rail Mounted



All values conform to IEC 60601-2-41. Subject to technical and design changes without notice. Light values are subject to a measurement tolerance of ±10 %. * In accordance with IEC 60601-2-41 the max. illuminance must not exceed 160,000 lx. The measurement tolerance is therefore only -10 %. All values conform to IEC 60601-2-41. Subject to technical and design changes without notice. Light values are subject to a measurement tolerance of ±10 %. * In accordance with IEC 60601-2-41 the max. illuminance must not exceed 160,000 lx. The measurement tolerance is therefore only -10 %

# ETCLED

FORE MORE THAN SEEING...

Etkin
TIBBİ CİHAZLAR

+90(232) 464 00 20
+90(232) 464 14 93
www.etkintibbi.com
etkintibbi@etkintibbi.com
Ataturk O.S.B. 10052 Str No.10 Çiğli Izmir, 35620 TURKEY

CE FDA REGISTERED kiwa ISO 9001 kiwa ISO 13485 IQR ISO 14001:2015 IQR ISO 45001:2018 TSE