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YLED

Brilliant Light – YLED-1F
For Diagnosis and Surgery

MAVIG

Brilliant Light for Diagnosis and Surgery

For decades, MAVIG has set standards in the field of radiation protection and medical suspension systems. This especially holds true for our long standing partnership with Dr. Mach, which integrates their innovative medical lighting technology with our patented Portegra2 systems.

Being two family-owned, German companies based closely together, it was only natural to continue the tradition of manufacturing sophisticated products of high quality, by defining a new standard for examination light technology.

The exclusive YLED-1F extends the modular ceiling suspension system Portegra2, with an easy-to-use examination light. This is a benefit for both our customers and users.

The latest generation of LED lamps (Light Emitting Diode) makes it easier for users to work concentrated for long periods without fatigue. As well, the YLED-1F creates a light that allows the user to detect slightest difference in colour and tissue structure of the wound field. This is achieved without a perceivable warming of the lamp head or the wound area.

In addition, the YLED-1F impresses with its practical "plug and play" installation, a lifetime of at least 50,000 hours for the LED module, and low energy consumption. These features increase efficiency in comparison with existing lighting solutions.

The advantages of established lighting technologies such as halogen and gas discharge lamps are retained: precise illumination of the wound area and easy positioning of the light.

The logo for MAVIG, featuring the letters 'M', 'A', 'V', 'I', and 'G' in a bold, sans-serif font. The letter 'A' is highlighted in orange, while the other letters are in a dark grey color.

THE REVOLUTIONARY LIGHT SOURCE – LED

Advantages of LEDs at a Glance

LEDs (Light Emitting Diodes) continually replace conventional incandescent, halogen, and energy saving lamps. There are good reasons for this change.

High Energy Efficiency

LEDs use electricity considerably more efficiently than conventional light sources. They consume only about 10% of the energy used by incandescent lamps of comparable power and approx. 50% of the energy of an energy-saving lamp.

Less Heat

LEDs generate considerably less heat than incandescent lamps. Furthermore, they generate very little UV and infra-red light. Lights with LED light sources therefore remain cool and only minimally heat the illuminated area, such as that around the patient's wound.

Very Convenient

In contrast to energy-saving lamps, LEDs switch on without delay and generate their full lighting output immediately.

Lower Risk of Failure

Typically, LEDs do not fail suddenly. Instead, the intensity of the LED light gradually reduces. LEDs also do not have any cavities which can implode, as is the case with halogen lamps.

Long Life

With a continuous illumination time of at least 50,000 hours, or five and a half years, MAVIG LEDs have a lifetime which is approximately 12 times longer than halogen lamps, and therefore helps to protect the environment.

Hazardous Substances

In contrast to energy saving lamps, LEDs do not contain mercury.

Shock Resistant

LEDs are not sensitive to physical stresses. This makes them more suitable than conventional lamps for environments that require robust mechanical conditions.

Freedom of Design

LEDs allow designers to create new shapes and colours of lights. Conventional geometries of lamps can be replaced by previously unseen shapes. This makes the use of light even more versatile and above all more practical.

YLED-1F Technical Data

Energy Efficiency

- Power consumption $\leq 24 \text{ VA}$

Temperature Increase

- In the head area $\leq 0,5 \text{ K}$

Full Illumination

- Central light intensity (at 1 m distance) 70,000 Lux

LED Module

- Lifetime $\geq 50,000 \text{ hours}$

Hazardous Substances

- RoHs compliant according to EU Directive 2011/65/EU

Robust

- Protection level IP44 (protects against splashed water)
- Fire protection class V0

Medical Product

- Complies with Directive 93/42/EEC for medical products
- DIN VDE 0100-710 for rooms used for medical purposes

Freedom of Design

- Optimised housing design for 17 LED modules
- Integrated wide range power supply (100 - 240 VAC, 50 - 60 Hz)



Long life – Typically, an LED lasts about 12 times longer than a halogen lamp.

MEDICAL LIGHTING TECHNOLOGY



YLED-1F – More than the Total of Know-How and Technology

The compact YLED-1F contains 17 powerful LED modules. All modules provide a combined light intensity of 70,000 Lux. In addition, a wide range power supply is integrated into the housing. This integrated power supply enables you to save space and time by means of simple installation.

Regardless of whether it is ceiling or wall-mounted, the tried-and-tested MAVIG Portegra2 system is ideal for suspending the YLED-1F (and other medical devices). Thanks to its great flexibility as a modular system with many safety features, it can be optimally adapted to a wide range of applications.

The YLED-1F therefore covers a wide range of applications, from examinations to minor surgical procedures. It is intuitively controlled by means of the side-mounted control panel (On/Off, endoscopic light, brightness adjustment) and the sterilisable handle (focusing).

Designed for utmost performance and to meet stringent requirements, the YLED-1F can be used by physicians or specialists, in hospitals or in outpatient surgery centres. It always keeps a "cool head", because the heat radiation from the YLED-1F is reduced to a minimum, even without complex filter technology.

With the use of considerably more efficient LEDs from the latest generation and a lamp life of at least 50,000 hours, the costs for electricity and lamp replacements are greatly reduced in comparison with the previously widespread halogen lights.

Equipped with the Latest Lighting Technology to Bring Light into Focus

With an excellent colour rendering index of $Ra \geq 95$, users can easily identify the most subtle nuances of colour and structures in the wound area. Therefore, the colour spectrum of the wound area appears more natural and with greater contrast. Moreover, the light itself is more pleasant for the users eyes.

Faceted lenses: Computer-optimised, they enable a very uniform light distribution and a minimum shadowing in the field of illumination. Separately arranged optics on each LED module enable the best possible overlap of the individual fields of illumination. This increases the contrast and the identification of details and achieves the best possible visual perception of the wound area.



Focusing: By rotating the sterilisable handle, the diameter of the field of illumination can be precisely adapted or focused to the particular size of the wound. This enables the user to freely select the required intensity of illumination precisely in various working levels. Therefore, the wound area is optimally illuminated even during complex procedures.



The result: Excellent illumination of local body areas and precise and effective support for the diagnosis and treatment of patients.

YLED

PORTEGRA 2

Free 360° rotation at the connection to the Portegra2 ceiling system

Lamp housing with protection class IP44

Faceted lenses for uniform light distribution

Intuitive control panel



Sterilisable handle for convenient positioning and focusing



DIMENSIONS/DATA ETC.

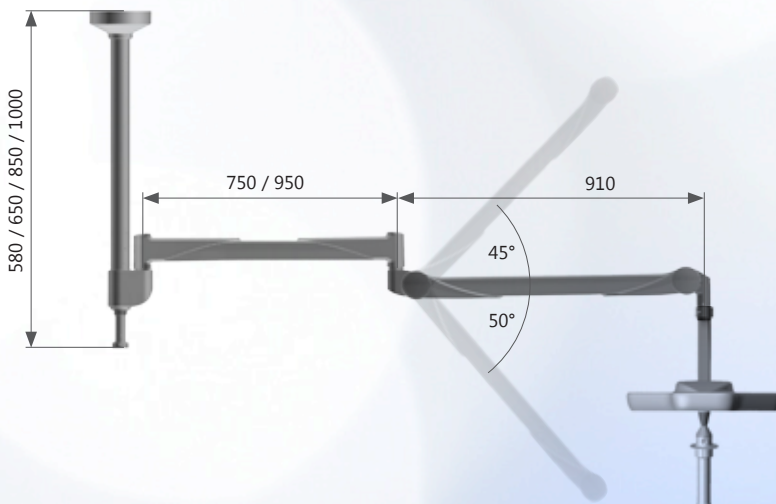
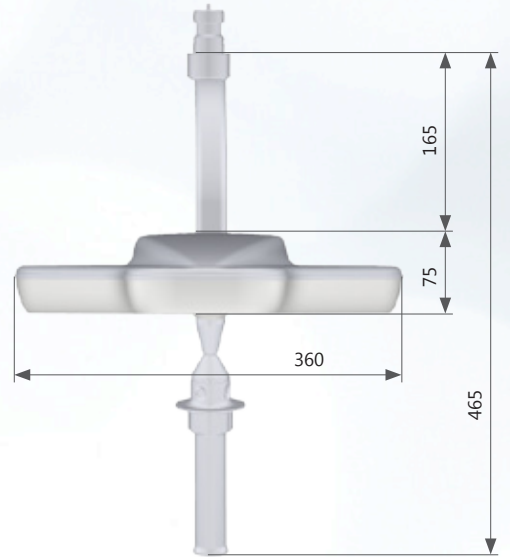
Technical Data and Specifications



YLED-1F

Examination and minor surgery light with integrated wide range power supply and faceted multiple lens system for minimum shadowing in the field of illumination.

Model	YLED-1F
Central light intensity (at 1 m distance)	70,000 lx
Colour temperature	4100 ± 200 K
Colour rendering index at 4100 Kelvin (CRI)	R _a ≥ 95
Focusable light field size	140 - 250 mm
Electronic brightness control	50 % - 100 % (incl. endoscopy light function)
Sterilisable handle	✓
Temperature increase in head area	≤ 0.5 K
Power consumption (total)	≤ 24 VA
Mains voltage and frequency	100 - 240 VAC at 50 - 60 Hz
Number of LED modules	17
Lifetime of LEDs	≥ 50,000 h
Working area	70 - 140 cm
Height adjustment (on Portegra2 spring arm)	117 cm
Lamp dimensions	28 x 36 cm
Housing colour	RAL 9002
Hazardous substances (EU Directive 2011/65/65)	RoHs compliant
Housing - Protected against splashed water	IP44
Fire protection class	V0
Medical Products Directive 93/42/EEC	✓
Use according to DIN VDE 0100-710	✓
Approvals	CE / NRTL



EXAMINATION AND SURGERY LIGHTS

Further Examination and Surgery Lights in the MAVIG Portfolio Technical Data / Specifications



LED 120 F

Small examination light for diagnosis and minor surgery with LED technology, electronic brightness control, and focusing via the handle.



LED 2 MC/SC

Small surgery light, optionally with multi-colour (MC) for adjusting the colour of the light, or single colour (SC) as well as faceted multiple lens system for minimum shadowing in the field of illumination.

Model	LED 120 F	LED 2 MC	LED 2 SC
Central light intensity (at 1 m distance)	40,000 lx	100,000 lx	100,000 lx
Colour rendering index at 4500 Kelvin	$R_a = 95$	$R_a \leq 96$	$R_a = 95$
Focusable light field size	140 - 250 mm	140 - 280 mm	140 - 280 mm
Electronic brightness control	50% - 100%	50% - 100%	50% - 100%
	-	5% (Endo)	5% (Endo)
Temperature increase in head area	< 0.5 K	< 0.5 K	< 0.5 K
Power consumption (total)	18 VA	70 VA	30 VA
Number of LEDs	12	84	21
Lifetime of LEDs	> 40,000 h	> 40,000 h	> 40,000 h
Working area	140 - 140 cm	140 - 150 cm	140 - 150 cm
Height adjustment	117 cm	117 cm	117 cm
Lamp diameter	29 cm	49 cm	49 cm



LED 3 MC/SC

Surgery light with LED technology optionally with multi-colour (MC) for adjusting the colour of the light, or single colour (SC) as well as faceted multiple lens system for minimum shadowing in the field of illumination.



LED 5 MC/SC

Powerful surgery light with LED technology optionally with multi-colour (MC) for adjusting the colour of the light, or single colour (SC) as well as faceted multiple lens system for minimum shadowing in the field of illumination.

Model	LED 3 MC	LED 3SC	LED 5 MC	LED 5 SC
Central light intensity (at 1 m distance)	130,000	130,000	160,000	160,000
Colour rendering index at 4500 Kelvin	$R_a \leq 96$	$R_a = 95$	$R_a \leq 96$	$R_a = 95$
Focusable light field size	170 - 280 mm	170 - 280 mm	200 - 320 mm	200 - 320 mm
Electronic brightness control	50% - 100%	50% - 100%	50% - 100%	50% - 100%
	5% (Endo)	5% (Endo)	5% (Endo)	5% (Endo)
Temperature increase in head area	0.5 K	0.5 K	0.5 K	0.5 K
Power consumption (total)	120 VA	45 VA	160 VA	65 VA
Number of LEDs	112	28	160	40
Lifetime of LEDs	> > 40,000 h	> 40,000 h	> 40,000 h	> 40,000 h
Working area	60 - 150 cm	60 - 150 cm	60 - 150 cm	60 - 150 cm
Height adjustment	117 cm	117 cm	117 cm	117 cm
Lamp diameter	57 cm	57 cm	72 cm	72 cm



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