

Dimensions in millimeter

Mach LED 2sc Hybrid

Dr. Mach
Medical lighting
+ Technology



Mach LED 2sc Hybrid

Small OT-light with LED technology for dental medicine

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Dr. Mach LED technology

SC models

are equipped with **Single-Colour-chips**. Changing the colour temperature is not possible in this case. Of course all the other advantages of the LED technology are also implemented here.

Lighting technology - special features of the Mach LED 2sc Hybrid

The OT-light Mach LED 2SC Hybrid offers two different operating modes for the doctor:

1. OT-mode

The light can be used as a normal OT-light for the oral and maxillofacial surgery. All functions of the light are available: changing of the light field size, depth light, light intensity control.



2. Dental-mode

The light can be used as a treatment light for dentistry. The photometric properties of the dental-mode are orientated to the standard DIN EN ISO 9680 (Dentistry-Operating lights).

The dental mode is activated by pressing the „DENTAL“ button on the key pad of the light. The outer LED units turn off and the illuminated central LED unit creates an oval-shaped light field for the glare-free illumination of the oral cavity.

The light intensity of the central unit can be adjusted electronically at the key pad of the light.



Conventional lighting systems

R_g -values between 20 and 70

Dr. Mach light system

$R_g \geq 90$

$R_a \geq 95$



Common characteristics

Facetted multi-lens system

A multitude of computer-calculated facetted lenses guarantees homogeneity and lowest shadiness in the light field.

Separately arranged optical systems, each with one LED module generate their own light field, which increases the contrast effect of the OR light. Light intensities of 110.000 Lux can be attained without difficulty.

Superiour colour rendition

With colour rendering indexes $R_a \geq 95$ and $R_g(\text{red}) \geq 90$ the surgeon recognizes clearly the tiniest nuances of colour in tissue. For recognizing the exact colour spectrum of the wound the exact rendition of the red colour range is essential.

$R_g(\text{red}) \geq 90$ means for the surgeon a visibly better recognition of details. The colour spectrum of the wound is rendered naturally with rich contrast. The OT-light clearly provides welcome relief for your eyes.

Illumination in depth

In the OT-mode you have the possibility to increase the light intensity of the central segment of the OT-light. This enables an optimum illumination of the wound field according to its texture and the shadowing effects.

A high and adequate light intensity is very important especially in cases of narrow and deep wound channels.

Dr. Mach LED technology

Key pad on the lamp housing

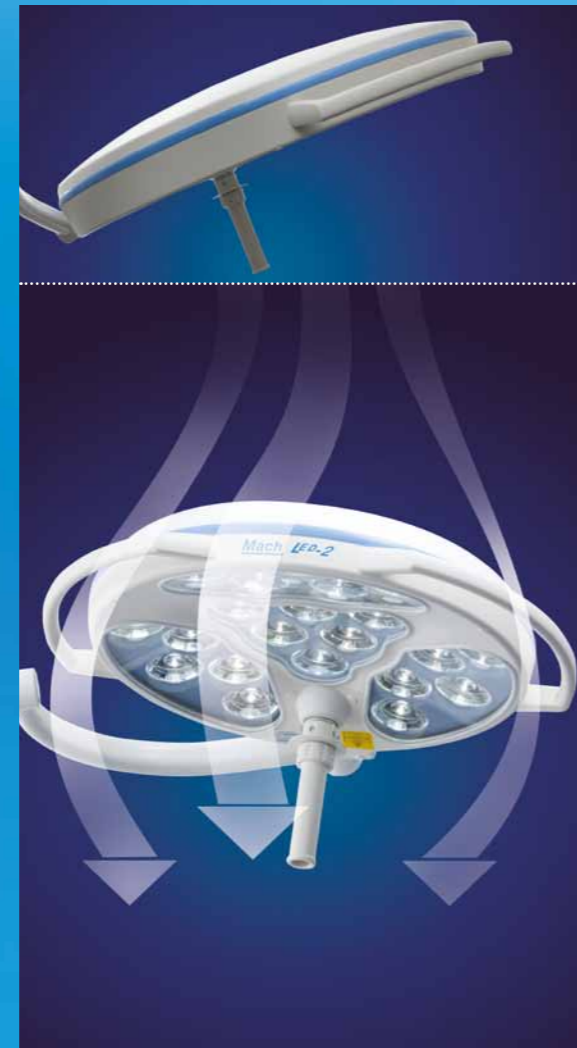
Several light functions can be adjusted electronically, such as:

- Switching ON and OFF
- Illumination in depth
- Dental-mode
- Electronic light intensity control
- SYNC (light combinations only)



Flow properties

During development high attention was paid to the performance of the new LED OR lights in laminar-flow ceiling systems. The flow-enhancing ring form of all light heads and the minimal surface avoid any heat increase in the surgeon's head area and create a perfect laminar flow performance, being a basic hygienic requirement in surgery.



Cool light

The LED technology is much more effective than conventional light sources such as halogen bulbs. The heat radiation is reduced to a minimum without using any expensive filter technique. The temperature increase in the surgeon's head area is almost nonexistent.



Long life-span/low power consumption

The life-span of more than 40.000 operating hours reduces the costs for exchanging and replacing the illuminants considerably, compared with the conventional halogen technology used with former OT-lights. By implementation of the LED technology the power consumption could be reduced partially with more than 50%.



Hygiene

The disk sealings of the light outlets and the circumferential sealing cord avoid infiltrations of dust, dirt and liquids inside the lamp head.



Wall panel

The OT-light can be operated at the wall panel (optional equipment against surcharge). The light functions can be adjusted on the wall panel as well as on the key pad of the light.

Several light functions can be adjusted electronically, such as:

- Switching ON and OFF
- Illumination in depth
- Dental-mode
- Electronic light intensity control

Handle

Merging of light fields is done by turning the sterilisable handle. The ring at the top of the handle allows the surgeon to set the most important light functions in the sterile area.

The light functions mentioned below can be set at the ring of sterilisable handle:

- Depth light
- Dental-mode
- Light intensity control



Mach LED 2sc Hybrid OT-light



Mach LED 2sc Hybrid 110.000 Lux

The light beams of the three outer clusters can be merged by turning the sterilisable handle.

Mach LED2sc Hybrid ceiling models

Ceiling model

for low room height $\leq 2,80\text{m}$



Mach LED2sc Hybrid with wall fixation



Ceiling model

for standard room height $> 2,80\text{m}$



Mobile light

with integrated power supply



Mobile light

with integrated emergency power unit
operating time 3 hours

Technical data Mach LED 2sc Hybrid light system	OT-mode	Dental-mode
Light intensity Lux	110.000 at 1 meter distance	30.000 at 0,7 meter distance
Colour rendering index $R_a^{(1)}$ at 4300 Kelvin	95	95
Focussable size of the light field (in cm)	16 - 24	9 x 5,5 (oval)
Colour temperature (Kelvin)	4300	4300
Electronic light intensity control at the lamp head	50 - 100%	50 - 100%
Temperature increase in head area	0,5 °C	0,5 °C
Voltage	24V-30V DC	24V-30V DC
Total power consumption	30 W	10 W
Number of LEDs	21	6
Life-span of the LEDs	≥ 40.000 h	≥ 40.000 h
Diameter of the lamp head (in cm)	49	49
Height adjustment (in cm)	118	118

⁽¹⁾ R_a is an average of R_1 = burnt pink,
 R_2 = mustard yellow, R_3 = yellow green,
 R_4 = light green, R_5 = turquoise blue,
 R_6 = skyviolet, R_7 = violet,
 R_8 = lilac. Maximum value = 100.