

Dr. Mach
Medical lighting
+ Technology

LED-300

Mach LED 300

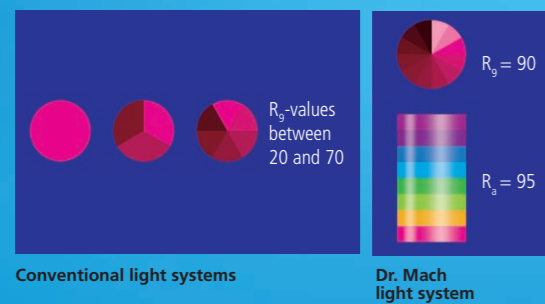
OT-light with LED technology

Mach LED 300
Mach LED 300 with video system

LED OT-LIGHTS

Advantages of the Mach LED 300 DF

Light quality and optics



Superiour colour rendition

With colour rendering indexes $R_a = 95$ and $R_9(\text{red}) = 90$ 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. $R_9(\text{red}) = 90$ 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.

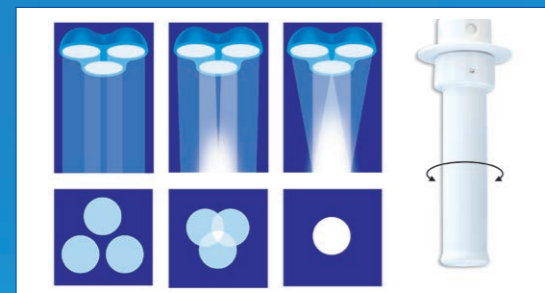


Facetted multi-lens system

A multitude of computer-calculated facetted lenses guarantees homogeneity and lowest shadiness in the light field. Separately arranged optical systems, with one LED module, generate their own light field, which increases the contrast effect of the OT-light. Light intensities of 140.000 Lux can be attained without difficulty.



Mach LED 300 DF OT-light



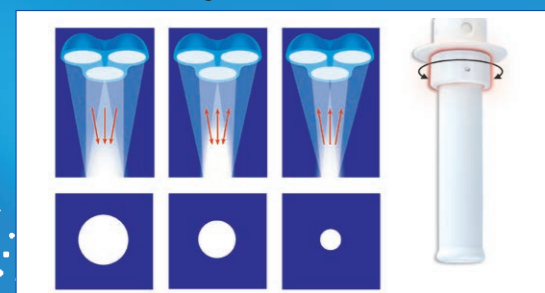
Duo-Focus-Technology:

Merging of the individual luminous fields

By turning of the sterilizable handle the LED-clusters with 12 lenses each swivel. The single light fields are joined and overlap to one field with increased light intensity.



Mach LED 300 DF OT-light



Focussing

By turning of the adjustment ring at the sterilizable handle the bulbs are moved inside the reflector up and down. The focusable light beam allows a punctual illumination of deepest wound channels with high intensity and an exact matching of the light field diameter with the size of the wound field.



Additional comfort

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.



Flow properties

During development high attention was paid to the performance of the new LED OT-lights in laminar-flow ceiling systems.



Easy maintenance

With only a few steps the lamp housings can be opened to have access to all system components. Due to the module technology all components can be easily exchanged. The housings are easy to clean.



Housing of die-casted aluminium

The material guarantees shock resistance and long life.



Handling

3 functions via touch panel:

- on/off
- light intensity control
- Endo-light



OT-light Mach LED 300 DF



Mach LED 300 DF
140.000 Lux

The light beams of the three LED-clusters can be merged by the sterilizable handle and – optionally – also focussed.

Design with additional central reflector available against surcharge

Ceiling model

Mach LED 300 DF with ceiling fixation and central spring arm for room height < 2,80 m



Mobile light

Mach LED 300 DF mobile with four castors

Ceiling model

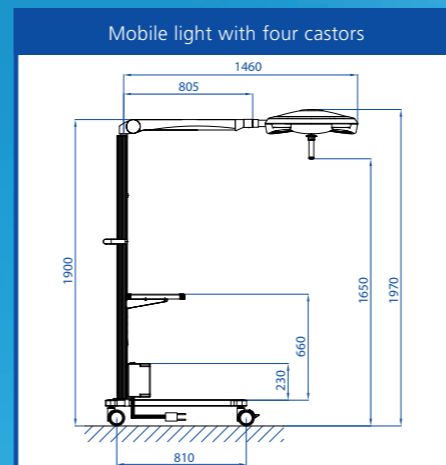
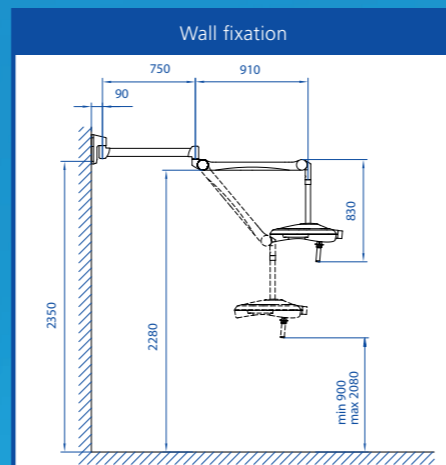
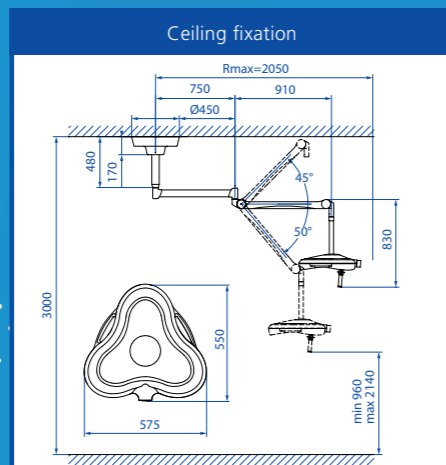
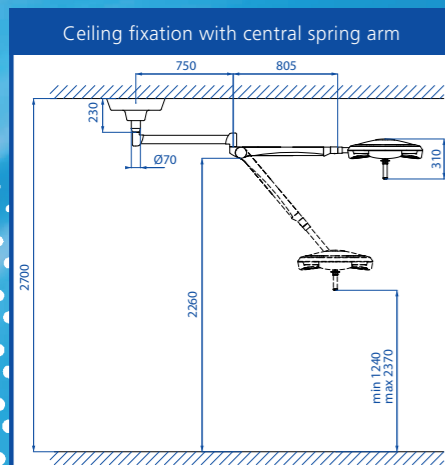
Mach LED 300 DF with ceiling fixation

Wall model

Mach LED DF 300 with cardanic suspension and wall fixation

Technical data ⁽¹⁾ Mach LED 300 OT-light system ⁽²⁾	DF
Light intensity Lux	140.000 ⁽⁴⁾ at 1 meter distance
Colour temperature (Kelvin)	4500
Colour rendering index R _a ⁽³⁾	95
Focussable size of the light field (in cm)	14 – 28
Working distance (in cm)	70 – 140
Diameter of the lamp head (in cm)	55
Temperature increase in head area	0,5 °C
Electronic light intensity control at the lamp head	standard
Number of LEDs	36
Life-span of the LEDs	> 50.000 h
Total power consumption	50 W

(1) Further technical details in the data sheet of the lamp, available upon request
 (2) External power supply
 (3) R_a is an average of R₁ = burnt pink, R₂ = mustard yellow, R₃ = yellow green, R₄ = light green, R₅ = turquoise blue, R₆ = skyviolet, R₇ = violet, R₈ = lilac. Maximum value = 100.
 (4) 160.000 Lux with additional central reflector



Dimensions in millimeter

OT-light Mach LED 300 DF

operating light
with integrated video system



Mach LED 300 DF
140.000 Lux

The Dr. Mach video system offers
flexible rotation and a perfect picture.



Technical data Dr. Mach camera	HD	MFB-MO (SD)
	High Definition camera with digital transmission for visual communication	Colour image camera for visual communication (PAL)
Objectiv system	30-fold optical zoom, 12-fold digital zoom f = 4.3 to 129 mm F1.6-4.7 auto-focus	36-fold optical zoom, 12-fold digital zoom f = 3.4 to 122.4 mm F1.6-4.5 auto-focus
Video signal	HD: 1080i/50; 720p/50 or 1080i/59.94; 720p/59.94	-
Video Output	HD-component	Y/C
Image points	approx. 2.000.000 pixels	752 (H) x 582 (V)
Horizontal resolution	-	Over 530 lines
Humidity	20 – 80%	20 – 85%
Dimensions (Ø, length)	80 x 150 mm	80 x 150 mm
Weight	900 g	900 g
Interference radiation in acc. with	FCC class A	FCC class A

Technical data

The Dr. Mach HD- and SD-video systems offer highest picture quality with a maximum movability of the light.

Advantages of the new Dr. Mach video system

- uniform preparation for HD- and SD-camera
- 360° continuous rotation in all major joints
- easy-mounting due to video signal transmission through the supply cables
- camera control with a serial interface or a second control unit
- easy fixation of the camera in another OT
- streaming, conversion or storage solution available on request

HD resolution

With the transmission of high-resolution pictures of the surgeries and the medical interventions we fulfill your visual requirements.

Advantages:

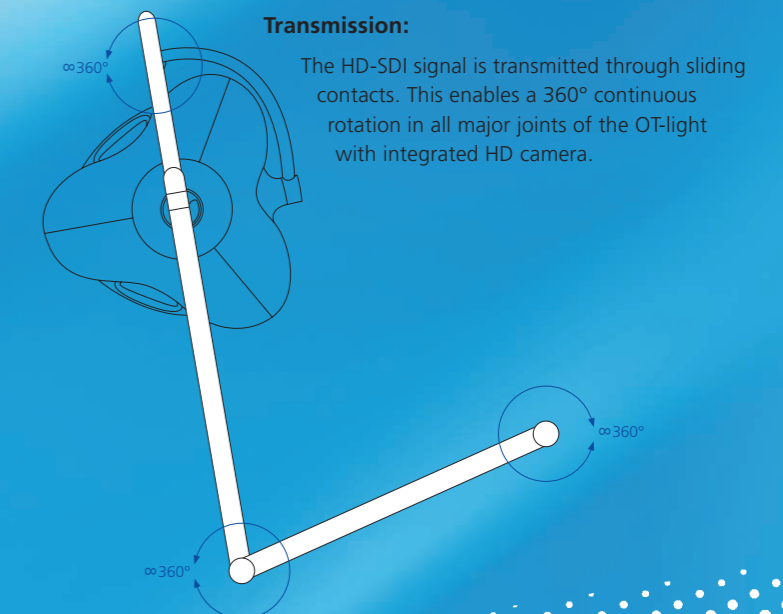
A brilliant picture quality with high depth of field and increased detail reproduction means a better recognition of the details in the woundfield by the surgeon or the physician.

Camera technology

The HD-camera with 30-fold optical zoom and the SD-camera with 36-fold optical zoom are equipped with auto-focus, auto-iris and picture rotation. The cameras are operated with a control unit.

Several camera functions can be adjusted on the control unit, such as:

- Switching ON and OFF
- Switching between 1080i and 720p – Dr. Mach HD-camera only
- Focus (automatic/manual)
- Iris (automatic/manual)
- Zoom
- Picture rotation
- Frozen image



Mach LED 300

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