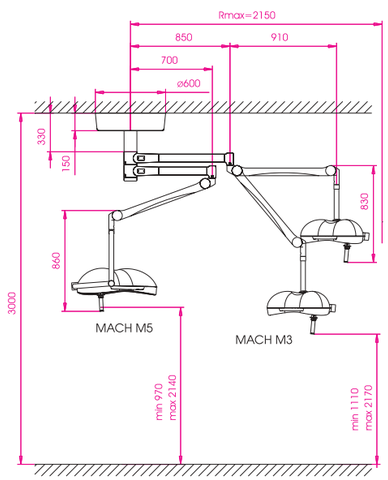
Technical data

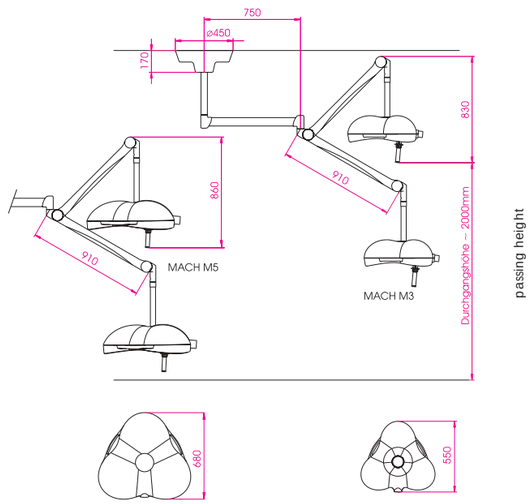
M5 light system	Mach M5 DF (1)	Mach M5F (2)
Light intensity Lux at 1 m distance	170.000	150.000
Colour rendering index R_a (3) at 4300 Kelvin	96	96
Colour rendering index R_9 (4) at 4300 Kelvin	≥ 92	≥ 92
Size of focusable luminous field	17–35	20–32
Colour temperature (Kelvin)	4300 K	4300 K
Electronic light intensity control at lamp head	optional	optional
Radiation intensity in field at 100,000 Lux	370 W/m²	370 W/m²
Temperature increase near head area	2 °C	2 °C
Total power consumption	225 VA	225 VA
Number of halogen bulbs 22,8/24V 75W	3	3
Working distance (in cm)	60–150	70–140
Height adjustment	118 cm	118 cm

M3 light system	Mach M3 DF (1)	Mach M3F (2)
Light intensity Lux at 1 m distance	115.000	90.000
Colour rendering index R_a (3) at 4300 Kelvin	96	96
Colour rendering index R_9 (4) at 4300 Kelvin	≥ 92	≥ 92
Size of focusable luminous field	14–32	18–28
Colour temperature (Kelvin)	4300 K	4300 K
Electronic light intensity control at lamp head	optional	optional
Radiation intensity in field at 100,000 Lux	370 W/m²	370 W/m²
Temperature increase near head area	2 °C	2 °C
Total power consumption	150 VA	150 VA
Number of halogen bulbs 22,8/24V 50W	3	3
Working distance (in cm)	60–150	70–140
Height adjustment	118 cm	118 cm

Subject to change without notice due to technical modifications.

(1) DF models with Duo-Focus System merging of luminous fields and focusing
(2) F-models with merging of luminous fields
(3) 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 = violet, R_7 = aster, R_8 = lilac Maximum value = 100
(4) R_9 is the value for the rendering of the colour red. This index is not used in calculating the general colour rendering index R_a. The values for conventional operating room lamps are between 20 and 70. Maximum value = 100. Values of more than 90 allow the surgeon to recognise details better in the area of the wound





Dr. Mach GmbH & Co.

Flossmannstraße 28, D-85560 Ebersberg
Telefon: +49 (08092) 20 93-0, Telefax: +49 (08092) 20 93 50
www.dr-mach.de
e-mail: info@dr-mach.de

IEC DIN 601 CE

kooperatives Mitglied der Zentralvereinigung Medizin-Technik

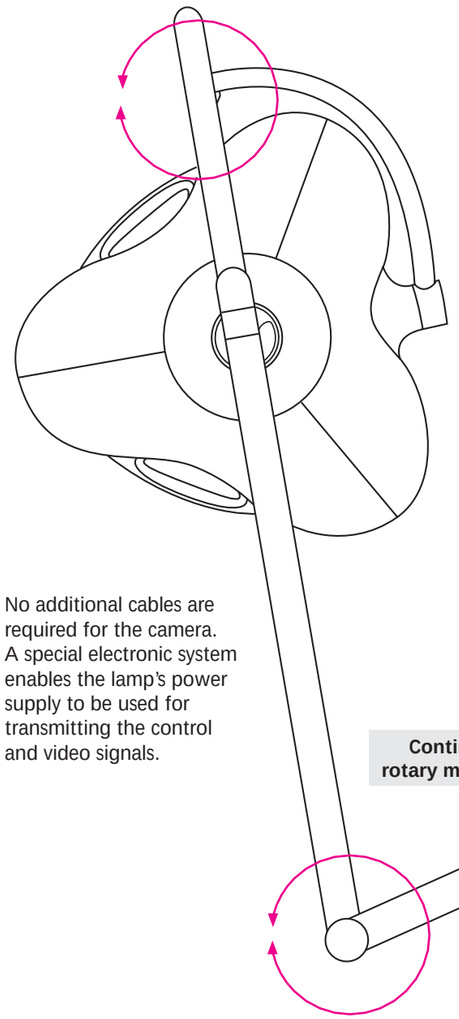
Dr. Mach Light System M3/M5

- Duo-Focus Technology
- Outstanding colour rendition
- Daylight-character
- Easy maintenance
- Optimum flow properties
- Integrated OT camera system

Mach M5

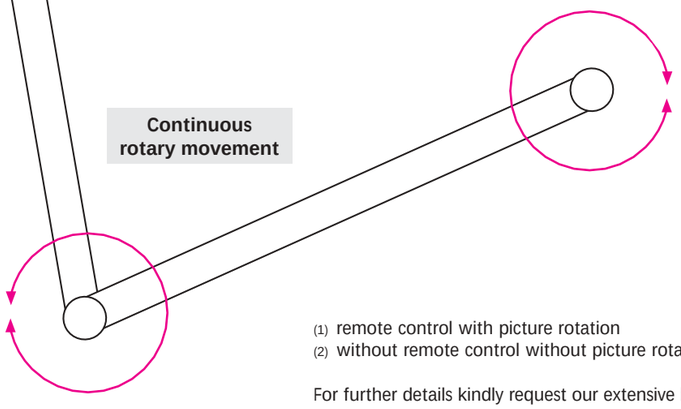
Mach M3

Continuous rotary movement



No additional cables are required for the camera. A special electronic system enables the lamp's power supply to be used for transmitting the control and video signals.

Continuous rotary movement



OP-Videosystem

Remote camera control

- 72x zoom
- Focus control (automatic/manual)
- Iris control (automatic/manual)
- Colour control
- Still picture
- Superimposed date and time
- Optional: picture rotation

Remote control

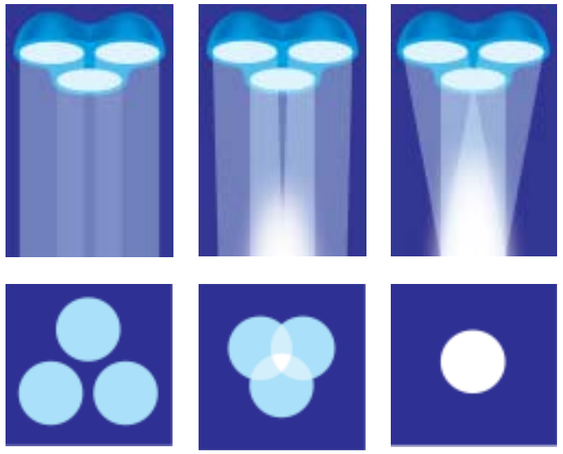
Output for video and control signals

Camera	MFB-Mo (1)	OFB-ST (2)
Colour film camera for visual communication (PAL) (Monitor optional)		
lens system	72x Zoom f = 4.1 to 73.8mm F1.4–3.0 Autofocus (integrated focus system)	72x Zoom Autofocus (integrated focus system)
Video output 75 Ω	Y: VS 1.0 Vp-p. Sync. negative C: Burst 0.300 Vp-p VBS: 1.0 Vp-p Composite	Y: VS 1.0 Vp-p. Sync. negative C: Burst 0.300 Vp-p VBS: 1.0 Vp-p Composite
Image points	752 (H) x 582 (V)	752 (H) x 582 (V)
Horizontal resolution	more than 460 lines	more than 460 lines
Vertical resolution	more than 400 lines	more than 40 lines
Humidity	20–85%	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

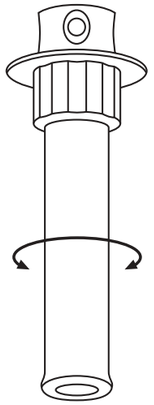
(1) remote control with picture rotation
(2) without remote control without picture rotation

For further details kindly request our extensive brochure on single lamps.

Duo-Fokus Technology



1. Merging the luminous fields by swivelling the reflectors inside the lamp housing



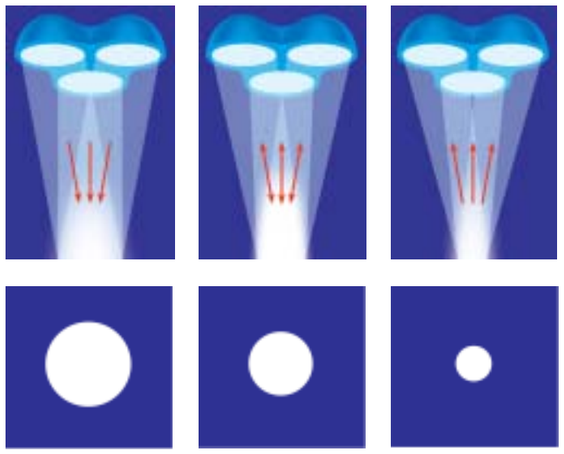
1. Merging of the individual luminous fields

The light fields which are produced by each single reflector are joined to one light field. The light fields overlap.

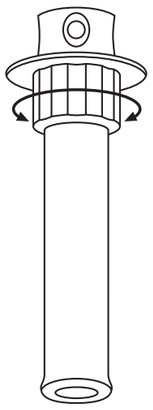
This feature is activated by turning the sterilisable handle.

F-models of Dr. Mach feature merging of the light field.

DF-models of Dr. Mach feature both technologies; merging of luminous field and focusing.



2. Focusing by moving the halogen bulbs inside each reflector up or down



2. Focusing

Focusing is done by moving the bulbs inside the reflector up or down. In this way you can further adjust the illuminated field to an extra small or extra large size, depending on the specific requirements.

This feature is activated by turning the ring at the top of the sterilisable handle.

DF-models include both technologies, merging of the luminous fields and focusing.

- **Illumination of specific points in the deepest wound channels with high light intensity**
- **Exact matching of the light field diameter with the size of the wound field**
- **Homogenious lightfield with optimized freedom from shadows**
- **Shock-resistant aluminium diecasting-housing for highest longevity**

Handling
Focusing and step-less light intensity control by means of membrane keyboard. The display shows the actual setting of focus and light intensity.

Flow properties
The form of the housing shows excellent flow properties, is easy to clean and prevents heat retention in the area of the head. Furthermore it produces optimum conditions for laminar flow systems.

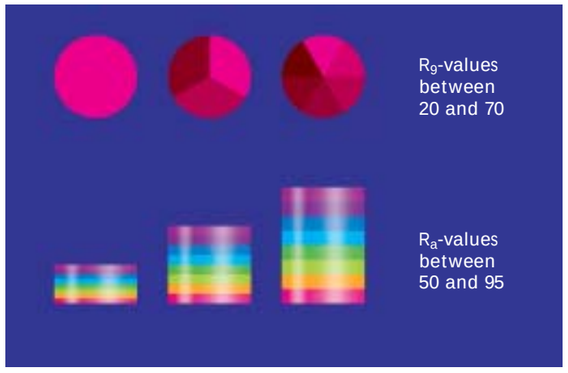
Easy maintenance
The housing may be opened without a tool. All components are easily accessible.

Module technique ensures that all essential components can be simply replaced. Change of bulbs within 30 seconds.

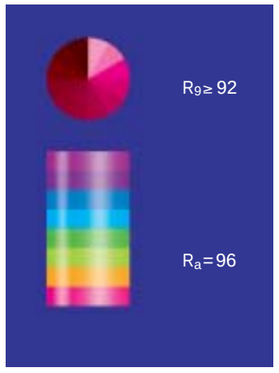
Integrated OT video system
A special electronic system enables the lamp's power supply as well as the sliding contacts to be used for transmitting the control and video signals. No additional cables are required for the camera, as previously necessary.
Continuous rotary movement of the lamp at all joints. Unproblematic later installation of camera and therefore definitely inexpensive. The camera is integrated in the centre of the lamp. Advantage: no adjustment at different working distances between light field and wound field.

The base is a Sony camera with 72x zoom, autofocus, iris control and picture rotation. Superimposed date and time.
Remote camera control is possible at same time from lecture hall and other rooms.

Multi-reflector system
Cool light
Computer calculated biconvex dispersion lenses together with the multi-reflector system increase the contrast of the OT-light and ensure a homogeneous luminous field with lowest possible amount of shadow. Dielectric coated coldlight glass reflectors reduce the lamp's heat radiation in the area of the head to a minimum



Conventional lighting systems



Dr. Mach lighting systems R96

Colour rendition
previously unattainable colour rendition $R_a = 96$ and $R_9 = 92$ makes it easy for you to see the tiniest nuances of colour in tissue, especially in the red and yellow range. The colour spectrum of the wound is rendered naturally and with ample contrast. The OT-light clearly provides welcome relief for your eyes. Special care has been given to the natural rendition of the colour red. The value $R_9 \geq 92$ allows the surgeon to recognise details better in the area of the wound.

Take your choice…

M5 ceiling model

M3 ceiling model

M3 und M5 ceiling model (camera integrated in lamp head as shown above, optional)

Modern production facilities and highly qualified personnel are a fundamental part of our perfected and innovative light systems