

Data sheet



Features

- User-friendly display and keypad
- Sterilisable handle - 200 sterilization cycles
- Electronic focussing (F)
- Light intensity control
- Colour temperature adjustment (MC)
- Endo-mode with green light
- Depth-light
- Optionally central spot or camera preparation for Dr. Mach video system
- Aluminium housing

Optional features

- Integrated laser pointer *
- Automatic shadow management (S) *
- Additional mechanical light field merging (DF) *
- Increase of light intensity to 160,000 lux
- Wall panel (accessory)

* Not available for Mach LED 6MC F (BASIC)

Technical data

Type of device	Operating light
Class (according to MDR)	I
Protection class/-type	I
IP protection class (IEC 60529)	IP 54 (Light without camera preparation) IP 53 (Light with camera preparation) IP 20 (Suspension system)
Radio interference suppression	EN 55011 (CISPR 11) EN 60601-1-2 (IEC 60601-1-2)
Temperature (for transport and storage) ¹	-25 °C to +70 °C
Ambient temperature for operation	+5 °C bis +40 °C
Relative humidity (for transport and storage) ¹	5 % RH to 95 % RH
Relative humidity for operation	30 % bis 75 % RH
Air pressure (for transport and storage) ¹	700 hPa to 1060 hPa
Air pressure for operation	700 hPa bis 1060 hPa
Input voltage	24-30 V DC
Power consumption / current consumption (140.000 Lux)	66 W / 2,7 A max. (without KV) 89 W / 3,3 A max. without KV, with S) 65 W / 2,7 A max. (with KV, without S) 75 W / 3,1 A max. (with KV, with S) 75 W / 3,1 A max. (with Kamera, without S) 84 W / 3,5 A max. (with Kamera, mit S)
Power consumption / current consumption (160.000 Lux)	75 W / 3,1 A max. (without KV) 94 W / 3,9 A max. (without KV, with S) 78 W / 3,2 A max. (with KV, without S) 87 W / 3,6 A max. (with KV, mit S) 87 W / 3,6 A max. (with Kamera, without S) 95 W / 3,9 A max. (with Kamera, with S)
Input voltage mains power supply (primary)	100-240 V AC, 50/60 Hz
Current consumption mains power supply (primary)	5.8 A max.
Output voltage mains power supply (secondary)	28 V DC
Output power mains power supply (secondary)	190 W
Operating time	Continuous operation possible
Weight of light body incl. accessories	max. 16.9 kg
Expected life ²	10 years
Turbulence level (DIN 1946-4)	17 %

¹ Transport and storage conditions for lamp body and power supply unit

² At the end of the expected (designed) service life, the lamp must be serviced more frequently for safe operation.

Lighting technical data

Lights without camera preparation

	Mach LED 6MC F	Mach LED 6MC DF	Mach LED 6MC F S	Mach LED 6MC DF S
Central light intensity (Distance 1 m)	140,000 Lux (optional: 160,000 Lux ^a)	140,000 Lux (optional: 160,000 Lux ^a)	140,000 Lux (optional: 160,000 Lux ^a)	140,000 Lux (optional: 160,000 Lux ^a)
Light field diameter d10	180 mm	180 mm	180 mm	180 mm
Light field diameter d50	103 mm	103 mm	103 mm	103 mm
Residual light intensity with one shade	50 %	50 %	50 %	50 %
Residual light intensity with two shades	45 %	45 %	58 %	58 %
Residual light intensity on the ground of a normed tube	100 %	100 %	100 %	100 %
Residual light intensity on the ground of a normed tube with one mask	50 %	50 %	50 %	50 %
Residual light intensity on the ground of a normed tube with two masks	45 %	45 %	58 %	58 %
Illumination depth 20 %	2000 mm	2000 mm	2000 mm	2000 mm
Illumination depth 60 %	1050 mm	1050 mm	1050 mm	1050 mm
Colour rendering index R _a (type)	98	98	98	98
Colour rendering index R ₉ (type)	99	99	99	99
Colour rendering index R ₁₃ (type)	99	99	99	99
Radiation strength in the field at a distance of 1 m (140,000 Lux)	518 W/m ²	518 W/m ²	518 W/m ²	518 W/m ²
Radiation strength in the field at a distance of 1 m (160,000 Lux)	558 W/m ²	558 W/m ²	558 W/m ²	558 W/m ²
Maximum radiation strength in the field at a distance of 0.69 m (140,000 Lux)	723 W/m ²	723 W/m ²	723 W/m ²	723 W/m ²
Maximum radiation strength in the field at a distance of 0.69 m (160,000 Lux)	757 W/m ²	757 W/m ²	757 W/m ²	757 W/m ²
Relation E _e /E _c (140,000 lx)	3.56 (mW/m ²) /lx	3.56 (mW/m ²) /lx	3.56 (mW/m ²) /lx	3.56 (mW/m ²) /lx
Relation E _e /E _c (160,000 lx)	3.49 (mW/m ²) /lx	3.49 (mW/m ²) /lx	3.49 (mW/m ²) /lx	3.49 (mW/m ²) /lx
Focusable light field size	18 - 30 cm	18 - 34 cm	18 - 30 cm	18 - 34 cm
Colour temperature (Kelvin)	3750, 4000, 4250, 4500, 4750 ^{b, d}	3750, 4000, 4250, 4500, 4750 ^b	3750, 4000, 4250, 4500, 4750 ^b	3750, 4000, 4250, 4500, 4750 ^b
Temperature increase in the head area	0.5 °C	0.5 °C	0.5 °C	0.5 °C
Luminous efficacy (efficiency)	280 lm/W	280 lm/W	280 lm/W	280 lm/W
Number of LEDs	69	69	69	69
Working distance	70-160 cm	70-160 cm	70-160 cm	70-160 cm
Dimming range (%)	50 - 100 ^c	50 - 100 ^c	50 - 100 ^c	50 - 100 ^c
Dimming levels	5	5	5	5
Diameter of light body	58 cm	58 cm	58 cm	58 cm
Life-span of LEDs	60,000 h	60,000 h	60,000 h	60,000 h

All technical data are subject to certain fluctuations. For production reasons, the actual values have a tolerance of $\pm 5\%$. The values for the colour temperature can have deviations of ± 200 K.

^a According to IEC 60601-2-41 the max. intensity of illumination must not exceed 160,000 lux. Therefore, the tolerance for this value is -5%.

^b Individual adjustment of colour temperature values possible on demand (adjustable range 3500-5500K) (4250 K not changeable).

^c Individual adjustment of dimming range possible on demand (range 20% - 100%).

^d Mach LED 6MC F (BASIC) color temperature 4250 K, not variable.

Lighting technical data

Lights with camera preparation

	Mach LED 6MC F	Mach LED 6MC DF	Mach LED 6MC F S	Mach LED 6MC DF S
Central light intensity (Distance 1 m)	140,000 Lux (optional: 160,000 Lux ^a)	140,000 Lux (optional: 160,000 Lux ^a)	140,000 Lux (optional: 160,000 Lux ^a)	140,000 Lux (optional: 160,000 Lux ^a)
Light field diameter d10	180 mm	180 mm	180 mm	180 mm
Light field diameter d50	103 mm	103 mm	103 mm	103 mm
Residual light intensity with one shade	50 %	50 %	50 %	50 %
Residual light intensity with two shades	41 %	41 %	53 %	53 %
Residual light intensity on the ground of a normed tube	100 %	100 %	100 %	100 %
Residual light intensity on the ground of a normed tube with one mask	50 %	50 %	50 %	50 %
Residual light intensity on the ground of a normed tube with two masks	41 %	41 %	53 %	53 %
Illumination depth 20 %	1680 mm	1680 mm	1680 mm	1680 mm
Illumination depth 60 %	1010 mm	1010 mm	1010 mm	1010 mm
Colour rendering index R _a (type)	98	98	98	98
Colour rendering index R ₉ (type)	99	99	99	99
Colour rendering index R ₁₃ (type)	99	99	99	99
Radiation strength in the field at a distance of 1 m (140.000 Lux)	500 W/m ²	500 W/m ²	500 W/m ²	500 W/m ²
Radiation strength in the field at a distance of 1 m (160.000 Lux)	567 W/m ²	567 W/m ²	567 W/m ²	567 W/m ²
Maximum radiation strength in the field at a distance of 0.69 m (140.000 Lux)	673 W/m ²	673 W/m ²	673 W/m ²	673 W/m ²
Maximum radiation strength in the field at a distance of 0.69 m (160.000 Lux)	763 W/m ²	763 W/m ²	763 W/m ²	763 W/m ²
Relation E _e /E _c (140.000 lx)	3.55 (mW/m ²) /lx	3.55 (mW/m ²) /lx	3.55 (mW/m ²) /lx	3.55 (mW/m ²) /lx
Relation E _e /E _c (160.000 lx)	3.54 (mW/m ²) /lx	3.54 (mW/m ²) /lx	3.54 (mW/m ²) /lx	3.54 (mW/m ²) /lx
Focusable light field size	18 - 30 cm	18 - 34 cm	18 - 30 cm	18 - 34 cm
Colour temperature (Kelvin)	3750, 4000, 4250, 4500, 4750 ^b	3750, 4000, 4250, 4500, 4750 ^b	3750, 4000, 4250, 4500, 4750 ^b	3750, 4000, 4250, 4500, 4750 ^b
Temperature increase in the head area	0.5 °C	0.5 °C	0.5 °C	0.5 °C
Luminous efficacy (efficiency)	282 lm/W	282 lm/W	282 lm/W	282 lm/W
Number of LEDs	66	66	66	66
Working distance	70-160 cm	70-160 cm	70-160 cm	70-160 cm
Dimming range (%)	50 - 100 ^c	50 - 100 ^c	50 - 100 ^c	50 - 100 ^c
Dimming levels	5	5	5	5
Diameter of light body	58 cm	58 cm	58 cm	58 cm
Life-span of LEDs	60,000 h	60,000 h	60,000 h	60,000 h

All technical data are subject to certain fluctuations. For production reasons, the actual values have a tolerance of ± 5%. The values for the colour temperature can have deviations of ± 200 K.

^a According to IEC 60601-2-41 the max. intensity of illumination must not exceed 160,000 lux. Therefore, the tolerance for this value is -5%.

^b Individual adjustment of colour temperature values possible on demand (adjustable range 3500-5500K) (4250 K not changeable).

^c Individual adjustment of dimming range possible on demand (range 20% - 100%).

Mechanical data

Joints on cardanic bows rotatable by 430° ($\pm 215^\circ$), on spring arm > 360° without stop

Rotatability on ceiling tube/flange tube of single suspension: > 360° without stop

Rotatability on 2-fold standard axis:

- Lower mounting pin: > 360° without stop
- Upper mounting pin: 300° ($\pm 150^\circ$)

Rotatability on stand tube of mobile stand: 64° ($\pm 32^\circ$)

Adjustable brakes on horizontal arm and light suspension

Height adjustment at full cardanic suspension:

- Spring arm Acrobat 2000: 1180 mm
- Spring arm VALiA: 1290 mm

Optional version with single bow for low ceiling heights

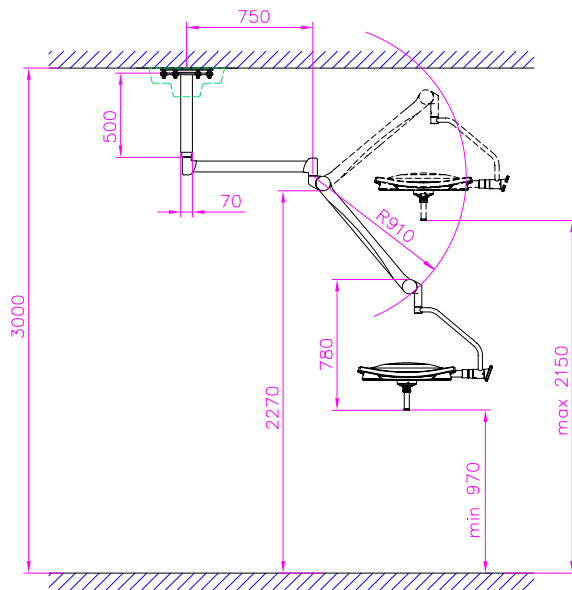
Technical drawings

Minimum clear room height for single light

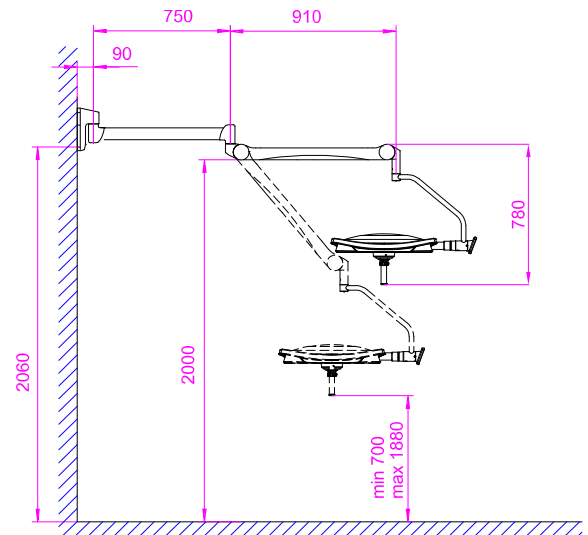
Light body	Ceiling version	Wall version
Mach LED 6MC with Full cardanic	2800 mm	2800 mm
Mach LED 6MC with central spring arm	2650 mm	2650mm

Ceiling version

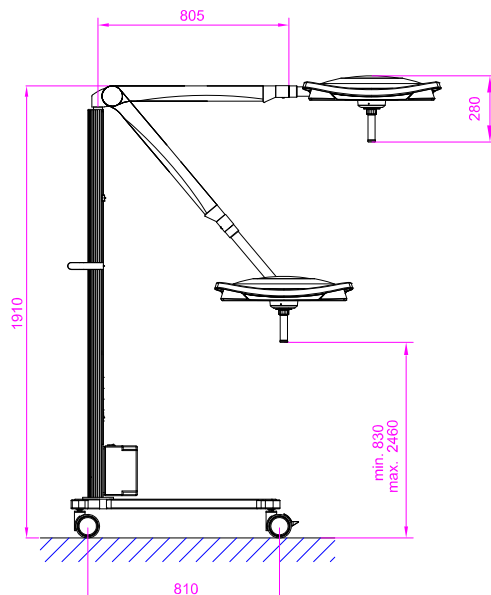
(Example Single light at room height 3.00 m)



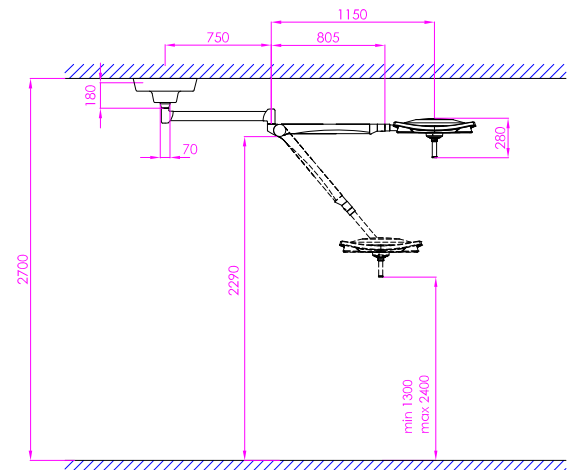
Wall version



Mobile version



Ceiling version for low ceiling height



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Subject to technical modification

