

HEINE® ML 4 LED HeadLight

DURABILITY:

- > **HEINE offers a 5 year guarantee**
HEINE makes no compromises in manufacturing high quality medical instruments. Our commitment to vertical integration in manufacturing means we control all aspects of our instrument quality, from utilizing carefully selected, well-matched materials, to a high level of hand assembly. This ensures that each HEINE instrument meets or exceeds all requirements in any medical environment.
- > **LED Thermal Management:** Carefully selected and applied heat-diffusing materials guarantee consistent quality and performance throughout the LED's lifetime rating of up to 50,000 hours.

PERFORMANCE:

- > **LED in HQ** – the new standard in LED illumination defining optimal light intensity, homogeneity and colour rendering for each individual examination situation – Colour temperature: 4,500 K, Colour Rendering Index (CRI) >90, special index for red colours R9: >75 on a maximum scale of 100. This ensures true colour tissue for the most accurate diagnosis.
- > **Coaxial Illumination:** Compact co-axial design ensures a completely shadow-free image and allows for excellent illumination of difficult to see areas.
- > **Bright and Homogenous Illumination:** Absolutely bright light spot that is uniform from edge-to-edge for the perfect illumination in all examination situations.
- > **Lithium Battery Technology:** Allows for up to 8.5 hours of continuous on-time at full power.

FUNCTION:

- > **Adjustable illumination spot size:** 30mm to 80mm spot size range (at 420mm working distance) to fit any examination situation.
- > **Comfortable and secure fit:** the ML 4 Professional L headband has multiple adjustment points and soft padding for comfort and stability – even during long procedures.
- > **Flexible Power Source Options:** 100% freedom of Choice with cable-free mPack UNPLUGGED head worn battery or mPack belt-worn battery.
- > **Illumination Intensity Control:** Choose the precise brightness setting for your examination.

LED HQ
LED NOW IN HEINE QUALITY.

QUALITY
Durability
Performance
Function



ML4 LED

DATA	
Description	ML4 LED
Catalogue Number	see catalogue or price list
Stand / Datum	V02 / 19.09.2014

GENERAL	
Regulation	CE
Product variants	n/a
Weight	260 gramm, ML4 LED on Headband Professional L 460 gramm, ML4 LED on Headband Professional L with mPack UNPLUGGED
Dimensions packaging	paperboard box: 405mm x 264mm x 200mm
Material	synthetic material, aluminium, glass
REACH/RoHS	REACH & RoHS compliant
Phthalate	Contains no Phthalates
Biocompatibility	The medical device does not have patient contact per intended use. Therefore the ISO 10993 is not applicable.
Latex	Product is Latex free
Surface	Housing made of synthetic material
Environmental conditions operation	Temp.: +10°C to +35°C, relative humidity: 30%-75%, air pressure: 700hPa to 1060hPa
Environmental conditions storage	Temp.: +5°C to +45°C, relative humidity: 45%-80%, air pressure: 500hPa to 1060hPa
Environmental conditions transport	Temp.: -20°C to +50°C, relative humidity: 45%-80%, air pressure: 500hPa to 1060hPa
Durability	5 years warranty
Operating elements	Adjustable spot size control
Power Supply	mPack, mPack UNPLUGGED, EN50, Plug-in transformer
HIBC code:	J-008.31.410-000: +E229J008314010001J
EAN code:	J-008.31.410-000: 4053755179787
Customs code (tariff number)	90189084
UNSPSC-code	42182600 (class); 42182600 (commodity)
Accessories:	attachable yellow filter
Patents:	n/a

MECHANICAL	
Connections:	connection to i-View loupe carrier
Imprints:	"ML4 LED", red imprint „Heine-Logo“, "HEINE made in Germany", "serial number"

CLEANING, STERILIZATION	
	Please also see detailed instructions in the user manual! Wiping with non-aggressive cleaning and disinfection solutions - no alcohol for the lens.

LIGHT	
Typ:	LED
Maintenance:	n/a
Voltage:	6-9V DC
Performance:	max. 5W
Power absorption	Max.600 mA
Light controlling:	stepless light control by headband mounted rheostat
Luminous intensity:	≥ 50.000lx
Colour temperature:	Approx. 4500K
Illuminated field:	30-80mm Ø in 420mm working distance
Quality of the illuminated field:	round, homogeneous illumination
medium life expectancy:	approx. 50.000h
Operating times:	mPack: 8.5h, mPack UNPLUGGED: 3.5h
Colour rendering:	typ. CRI ≥ 90, R9 ≥ 75
UV radiation:	n/a
Lightening direction:	Vertical adjustable from -20° to ≥ 20° (ocular level)