

HEINE ML4 LED HeadLight

Compact, ergonomic design without compromises.

Compact, ergonomic design without compromises. The new HEINE ML4 LED Headlight combines illumination in LED^{HQ} with optimum wearing comfort. It provides homogeneous illumination with an absolutely bright light spot that is uniform from edge-to-edge for the demanding tasks of a busy practice and the most accurate diagnosis in every examination situation. Individual adjustment options such as the adjustment of the viewing angle over a wide range and practical features such as the cable-free battery form a perfectly matched system.



COMFORTABLE AND SECURE FIT

The ML4 LED HeadLight Professional L headband has multiple adjustment points for comfort and stability – ideal for long examinations.



SPOT SIZE

Adjustable from 30 mm to 80 mm (at a working distance of 420 mm) to fit any examination situation.



FLEXIBLE POWER SOURCE OPTIONS

100 % freedom with a choice of cablefree mPack UNPLUGGED head-worn battery or mPack belt-worn battery pack.

LED IN HEINE QUALITY

Advanced LED illumination for an absolutely homogeneous light with true and natural colour rendering.

For more information see Page 118.

LED^{HQ}

LED NOW IN HEINE QUALITY.



HEINE ML 4 LED HeadLight with DV 1 Digital Video Camera for high-resolution images.

High-resolution digital images of every examination. We make it happen with the new HEINE DV1 Digital Video Camera and its smooth integration in the coaxial illumination of the ML4 LED Headlight. Precision HEINE Optics guarantees that even the smallest details can be seen on the camera image. The compact camera is adjusted to the field of illumination in just a few seconds. Due to the light weight of the camera, the ML4 LED HeadLight provides the usual comfortable and secure fit even in combination with the DV1.

HD

HIGH-RESOLUTION DIGITAL IMAGES

High camera resolution of 1,280 x 960 Pixel is perfect for sharing examination images or examination techniques with a larger audience.

LIGHT WEIGHT

LIGHTWEIGHT

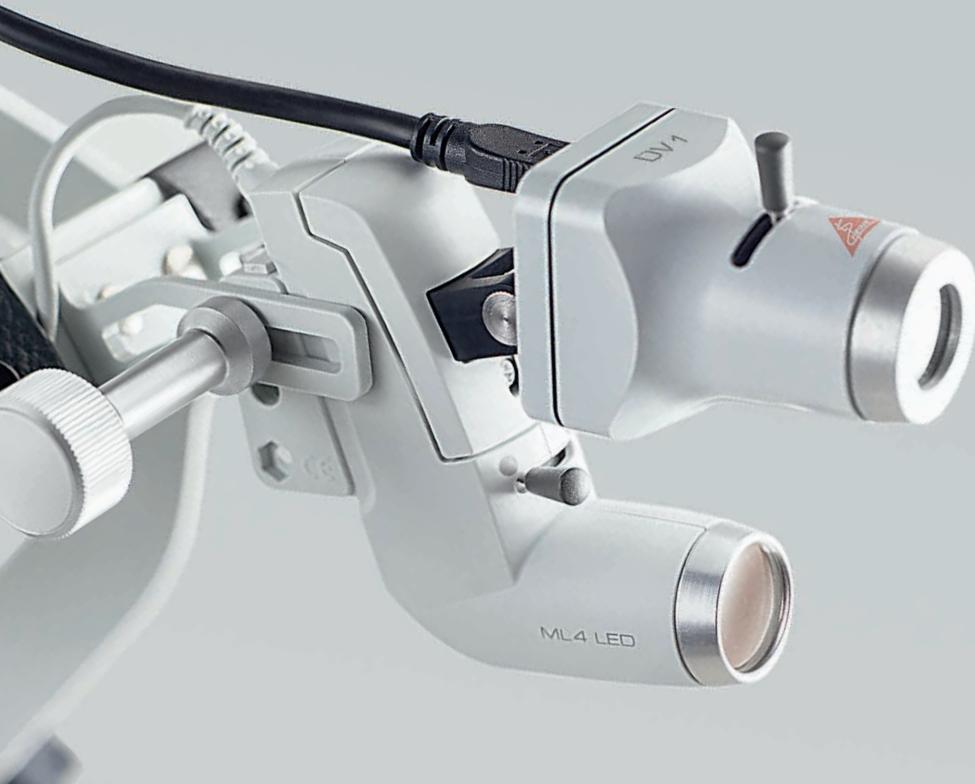
The compact camera is so well integrated that its light weight is barely noticeable in combination with the ML4 LED HeadLight.



OPTIMAL INTEGRATION

Ideal concept for a perfectly matched system: ML4 LED HeadLight, DV1 Digital Video Camera and optional HEINE Binocular Loupe.

For more information see Page 122.





HEINE® ML 4 LED HeadLight

Ultra bright coaxial illumination – Now with LED^{HQ}

NEW!

LED^{HQ}

LED NOW IN HEINE QUALITY.

• Comfortable and secure fit

• Adjustable spot size

• Flexible Power Source Options

- **LED in HQ** – the new standard in LED illumination defining optimal light intensity, homogeneity and colour rendering for each individual examination situation.
- **Adjustable illumination spot size:** 30 mm to 80 mm spot size range (at 420 mm working distance) to fit any examination situation.
- **Bright and Homogenous Illumination.** Absolutely bright light spot that is uniform from edge-to-edge for the perfect illumination in all examination situations.
- **Stepless light intensity control.** Optimal brightness setting prevents reflexes.
- **Flexibility.** Flexible Power Source Options: 100 % mobility with a choice of cable-free mPack UNPLUGGED head-worn battery or mPack belt-worn battery pack.
- **Coaxial Illumination.** Coaxial design ensures a completely shadow-free image and allows for excellent illumination of difficult to see areas.
- **Comfortable and secure fit.** The ML 4 Professional headband has multiple adjustment points and soft padding for comfort and stability – even during long examinations.
- **Optional Filters.** Polarisation filter P2 improves contrast and yellow filter reduces blue light.

Technical Specification

Illumination	Up to 50,000 Lux at a working distance of 250 mm
Colour Temperature	4,500 Kelvin
LED Operating Life	Up to 50,000 hours
Spot Adjustment	30 mm to 80 mm at 420 mm working distance
Angle of Declination	Stepless and individually adjustable for every examination
Rheostat	Headband-mounted
Operating Time	8.5 hours with mPack and 3.5 hours with mPack UNPLUGGED of continuous ON time at full power

Power Options:

• HEINE® mPack

- **Portable power pack.** Does not tie the user to desk, wall or static power supplies.
- **Li-ion Technology. Triple capacity** compared with current NiCd systems. No memory effect, autonomy for 8.5 hours of continuous ON time at full power.
- **Fast Charge.** Charges to full capacity in 2 hours.
- **Charge Status Display.** Always lets you know how much operating charge you have left.
- **Stepless light intensity control.** Optimum brightness setting prevents reflexes.
- **Flexible Charging Options:** EN50 Desk and wall charger, or plug-in transformer.
- **Intelligent.** Can be used as mains power supply even while in “charge” mode.
- **100 – 240V Compatible Transformer** incl. 4 plugs for world wide compatibility.

For the optional EN50 table/wall unit please see page 133.

• HEINE® mPack UNPLUGGED. Headband-mounted rechargeable battery.

- **Wireless.** 100 % mobility for absolute freedom of movement.
- **Rechargeable battery integrated on the headband.** No inconvenient cable connections.
- **Lightweight with balanced weight distribution.** High level of comfort.
- **Charge Status Display** indicates remaining operating time.
- **Intelligent.** Can be used as mains power supply even in “charge” mode.
- **Fast Charge.** Charges to full capacity in only 2 hours. Operating time 3.5 hours of continuous ON time at full power.
- **Top Safety Standards.** Integrated charge and performance checks during operation. Lithium polymer technology. UL compliant.



HEINE® ML4 LED HeadLight

Ordering Information



LED NOW IN HEINE QUALITY.



[01]



[02]



[03]



[04]



[05]



[06]



[07]



[08]



[09]

ML4 LED HeadLight with Headband Professional L and Power Sources

ML4 LED HeadLight without power source [01]	J-008.31.410
ML4 LED HeadLight with plug-in transformer [01] + [02]	J-008.31.411
ML4 LED HeadLight with mPack and plug-in transformer [01] + [03]	J-008.31.413
ML4 LED HeadLight with mPack UNPLUGGED and plug-in transformer UNPLUGGED [01] + [04]	J-008.31.415
ML4 LED HeadLight with wall mounted EN50 UNPLUGGED charger and 2x mPack UNPLUGGED [01] + [05]	J-008.31.416

ML4 LED HeadLight accessories

Detachable Yellow Filter [06]	J-000.31.321
Extension Cord from plug-in transformer UNPLUGGED to mPack UNPLUGGED, 2 m [07]	X-000.99.668
NEW: Polarisation filter P2 for ML4 LED and HR Loupes [08] + [09]	J-000.31.326
NEW: Spare polarisation filter P2 for HR Loupes (2 pairs) [09]	C-000.32.536



HEINE® ML4 LED HeadLight with HR/HRP Optics



LED NOW IN HEINE QUALITY.

The ML4 LED HeadLight is optionally supplied with HR/HRP Binocular Loupes incl. i-View loupe mount and with or without S-GUARD. The binocular loupe is fully adjustable for every examiner and for every examination axis.

- **HEINE S-GUARD:** Rapid and simple symmetric adjustment of binocular loupes with splash protection by protective lenses.
- **HEINE i-View for ML4 LED HeadLight:** Provides any angle of view and flips up the optics independently of the illumination beam.



[01]

[02]

ML4 LED HeadLight Kits with S-GUARD and Power Source

The following Kits contain: ML4 LED HeadLight, HR/HRP optics with i-View and S-GUARD, mPack and plug-in transformer [01], Cleaning Fluid [02]

Kit 1:	with HR Binocular Loupe	2.5x/340mm	J-008.31.440
Kit 2:	with HR Binocular Loupe	2.5x/420mm	J-008.31.441
Kit 11:	with HR Binocular Loupe	2.5x/520mm	J-008.31.450
Kit 3:	with HRP Binocular Loupe	3.5x/420mm	J-008.31.442
Kit 4:	with HRP Binocular Loupe	4x/340mm	J-008.31.443
Kit 5:	with HRP Binocular Loupe	6x/340mm	J-008.31.444

ML4 LED HeadLight Kits with Power Source without S-GUARD

The following Kits contain: ML4 LED HeadLight, HR/HRP optics with i-View, mPack and plug-in transformer [01]

Kit 1c:	with HR Binocular Loupe	2.5x/340mm	J-008.31.452
Kit 2c:	with HR Binocular Loupe	2.5x/420mm	J-008.31.453
Kit 11c:	with HR Binocular Loupe	2.5x/520mm	J-008.31.463
Kit 3c:	with HRP Binocular Loupe	3.5x/420mm	J-008.31.454
Kit 4c:	with HRP Binocular Loupe	4x/340mm	J-008.31.456
Kit 5c:	with HRP Binocular Loupe	6x/340mm	J-008.31.457



[01]



[03]

[02]

ML4 LED HeadLight UNPLUGGED Kits with S-GUARD and Power Source

The following Kits contain: ML4 LED HeadLight, HR/HRP optics with i-View and S-GUARD, Wall transformer EN50 UNPLUGGED [03], 2x mPack UNPLUGGED, Cleaning Fluid [02]

Kit 6:	with HR Binocular Loupe	2.5x/340mm	J-008.31.445
Kit 7:	with HR Binocular Loupe	2.5x/420mm	J-008.31.446
Kit 12:	with HR Binocular Loupe	2.5x/520mm	J-008.31.451
Kit 8:	with HRP Binocular Loupe	3.5x/420mm	J-008.31.447
Kit 9:	with HRP Binocular Loupe	4x/340mm	J-008.31.448
Kit 10:	with HRP Binocular Loupe	6x/340mm	J-008.31.449



[03]

ML4 LED HeadLight UNPLUGGED Kits with Power Source without S-GUARD

The following Kits contain: ML4 LED HeadLight, HR/HRP optics with i-View, Wall transformer EN50 UNPLUGGED [03], 2x mPack UNPLUGGED

Kit 6c:	with HR Binocular Loupe	2.5x/340mm	J-008.31.458
Kit 7c:	with HR Binocular Loupe	2.5x/420mm	J-008.31.459
Kit 12c:	with HR Binocular Loupe	2.5x/520mm	J-008.31.464
Kit 8c:	with HRP Binocular Loupe	3.5x/420mm	J-008.31.460
Kit 9c:	with HRP Binocular Loupe	4x/340mm	J-008.31.461
Kit 10c:	with HRP Binocular Loupe	6x/340mm	J-008.31.462

HR/HRP Binocular Loupes – Retrofitting Sets

for HEINE ML4 LED HeadLight



Pos. 1



[01]



Pos. 2



[02]

Retrofitting Set HR/HRP Binocular Loupes for ML4 LED HeadLight

The sets enable you to equip your existing ML4 LED HeadLight with a binocular loupe. The set contains HR/HRP optics with i-View, S-GUARD splash protection and cleaning fluid [01]

with HR Binocular Loupe	2.5x/340mm	J-000.31.370
with HR Binocular Loupe	2.5x/420mm	J-000.31.371
with HRP Binocular Loupe	3.5x/420mm	J-000.31.372
with HRP Binocular Loupe	4x/340mm	J-000.31.373
with HRP Binocular Loupe	6x/340mm	J-000.31.374

5 Steri-levers for i-View loupe mount for ML4 LED HeadLight [02]	C-000.32.399
--	---------------------

Power Sources



[01]



[02]



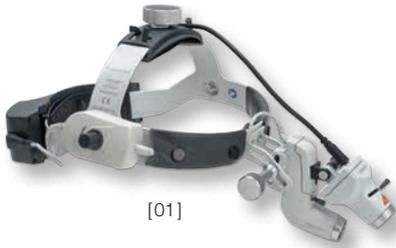
[03]

mPack and plug-in Transformer [01]	X-007.99.672
Plug-in Transformer for ML4 LED HeadLight [02]	X-095.16.330

mPack with EN50 table/wall unit (incl. 90° Angled Adaptor, Instrument support for Professional L Headband) [03]	X-095.17.302
---	---------------------

HEINE® ML4 LED HeadLight with DV1 Digital Video Camera

DV1 – for high-resolution, digital images



[01]

- ∴ **High-resolution video camera.** 1.3 Megapixel, 1,280x960 Pixel.
- ∴ **Fully-integrated camera system.** No external brackets or prisms.
- ∴ **Precise HEINE Optics.** For the best digital images and high light intensity.
- ∴ **Dustproof.** No maintenance required.
- ∴ **Focus adjustable for any working distance.** From 250 to 800mm.
- ∴ **Automatic white balance.**
- ∴ Connection of the camera via a standard USB 2.0 interface. Reliable, uncomplicated data transfer.
- ∴ **Compact.** Lightweight design (50g, camera head without cable, total weight 410g).
- ∴ **Connecting cable 3m.**
- ∴ **Perfect Integration.** HeadLight, Digital Video Camera and Optional Binocular Loupe are designed and manufactured in-house.



[02]

ML4 LED HeadLight with DV1

ML4 LED HeadLight with DV1 digital video camera and mPack UNPLUGGED with plug-in transformer [01]

J-008.31.470

ML4 LED HeadLight with DV1 digital video camera and mPack with plug-in transformer [02]

J-008.31.471