HEINE Headlights

Technical Data	LED MicroLight	ML 4 LED HeadLight	MD 1000 Headlight
	NEW	NEW	
Type of Light	LED	LED	F.O.
Light Intensity (at 250 mm working distance)	**Up to 40,000 Lux**	**Up to 50,000 Lux**	**Up to 35,000 Lux** with HK 7000 Projector
Colour Temperature (Kelvin)	**4,500 K**	**4,500 K**	**3,300 K** with HK 7000 Projector
Spot Size (at 420 mm working distance)	**81 mm**	**30 – 80 mm**	**40 – 150 mm**
Power Sources / operating time	mPack LL **17 hours**	mPack UNPLUGGED **3.5 hours** mPack **8.5 hours**	F.O. Projector
Weight	**50 g** with S-FRAME **165 g** with Lightweight Headband	**260 g** **460 g** with mPack UNPLUGGED	**435 g**
Angle of Declination	Fully-adjustable	Fully-adjustable	Fully-adjustable
Light Intensity Control	**0 – 100 %**	**0 – 100 %**	**0 – 100 %**

Features	LED MicroLight	ML 4 LED HeadLight	MD 1000 Headlight
Adjustable Spot Size	––	☐	☐
Waterproof	☐	––	––
Optional Yellow Filter	☐	☐	––
Polarisation Filter	––	☐	––
Expandable with HR and HRP Loupes	––	☐	☐
Optional Video Version	––	☐	––
Head-worn	☐	☐	☐
Spectacle-worn	☐	––	––
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HEINE® LED MicroLight

Ultralight Universal Headlight – now with LED^{HQ}

NEW

LED^{HQ}

LED NOW IN HEINE QUALITY.

:· **Compact and Lightweight**

:· **Coaxial Illumination**

:· **Up to 40,000 Lux / 250 mm distance**

:· **LED in HQ –** the new standard in LED illumination defining optimal light intensity, homogeneity and colour rendering for each individual examination situation.

:· **Compact and lightweight.** Ensures perfect comfort.

:· **Aluminium Housing.** Exclusive aluminum housing protects the optics against dust and moisture to ensure an extraordinary long lifespan.

:· **Coaxial Illumination:** Compact coaxial design ensures a completely shadow-free image and allows for excellent illumination of difficult to see areas.

:· **Homogeneity:** An absolutely bright light spot that is uniform from edge-to-edge for the perfect illumination in all examination situations.

Technical Specification	
Illumination	Up to **40,000 Lux** at a working distance of 250 mm
Colour Temperature	**4,500 Kelvin**
LED Operating Life	Up to **50,000 hours**
Weight	50 g together with S-FRAME, 165 g together with Lightweight Headband
Angle of Declination	Stepless and individually adjustable for every examination
Operating Time	**17 hours** of continuous ON time at full power with mPack LL

[01]   [02]
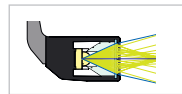
Conventional System [01]
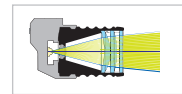
HEINE Precision Lens System [02]

:· **Precision multiple lens optical system** consisting of four high-quality lenses. Completely homogeneous illumination of the whole field of view, and a clearly defined light spot.

Mounting Options:

:· HEINE S-FRAME®

:· **Maximum comfort** with a modern, ergonomic design.

:· **Malleable temples and nose pad.** Can be customized to fit any face perfectly.

:· **Innovative materials –** Carbon-Kinetium reduces weight (50 g together with LED MicroLight).

:· **Tough polycarbonate protective lenses.**

:· HEINE® Lightweight Headband

:· **Lightweight** (165 g together with LED MicroLight.) Ideal for spectacle wearers.

:· **Fully-adjustable for width to fit any head.**

:· **Hygienic and comfortable leather cushions.**

HEINE® mPack LL

Power Source

:∙ **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 17 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:** EN 50 Desk and wall charger, or plug-in transformer.
:∙ **Intelligent.** Can be used as mains power supply even while in "charge" mode.
:∙ **100 – 240 V Compatible Transformer** incl. 4 plugs for world wide compatibility.

For the optional EN 50 table/wall unit please see page 133.

HEINE® LED MicroLight

Ordering Information

LED MicroLight	
on S-FRAME with mPack LL, plug-in transformer, retaining cord and cleaning fluid in case [01]	J-008.31.270
on Lightweight Headband with mPack LL and plug-in transformer in case [02]	J-008.31.275
Detachable Yellow Filter [03]	C-000.32.241

[01]   [02]

[03]

Loupes & Headlights

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 P 2 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:** EN 50 Desk and wall charger, or plug-in transformer.
:: **Intelligent.** Can be used as mains power supply even while in "charge" mode.
:: **100 – 240 V Compatible Transformer** incl. 4 plugs for world wide compatibility.

:· 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® ML 4 LED HeadLight

Ordering Information

LED HQ
LED NOW IN HEINE QUALITY.

ML 4 LED HeadLight with Headband Professional L and Power Sources	
ML 4 LED HeadLight without power source [01]	**J-008.31.410**
ML 4 LED HeadLight with plug-in transformer [01] + [02]	**J-008.31.411**
ML 4 LED HeadLight with mPack and plug-in transformer [01] + [03]	**J-008.31.413**
ML 4 LED HeadLight with mPack UNPLUGGED and plug-in transformer UNPLUGGED [01] + [04]	**J-008.31.415**
ML 4 LED HeadLight with wall mounted EN 50 UNPLUGGED charger and 2 x mPack UNPLUGGED [01] + [05]	**J-008.31.416**

[02]

[01]

[04]

[03]

[05]

ML 4 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 P 2 for ML 4 LED and HR Loupes [08] + [09]	**J-000.31.326**
NEW: Spare polarisation filter P 2 for HR Loupes (2 pairs) [09]	**C-000.32.536**

[06]   [07]

[08]

[09]

Loupes & Headlights

HEINE® ML4 LED HeadLight with HR/HRP Optics

LED MQ
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**

[01]

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**

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]   [02]

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**

[03]

HR / HRP Binocular Loupes – Retrofitting Sets

for HEINE ML 4 LED HeadLight

Pos. 1

[01]

Pos. 2

[02]

Retrofitting Set HR/HRP Binocular Loupes for ML 4 LED HeadLight

The sets enable you to equip your existing ML 4 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	2.5 x / 340 mm	**J-000.31.370**
with HR Binocular Loupe	2.5 x / 420 mm	**J-000.31.371**
with **HRP** Binocular Loupe	3.5 x / 420 mm	**J-000.31.372**
with HRP Binocular Loupe	4 x / 340 mm	**J-000.31.373**
with HRP Binocular Loupe	6 x / 340 mm	**J-000.31.374**

5 Steri-levers for i-View loupe mount for ML 4 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 ML 4 LED HeadLight [02]	**X-095.16.330**

|	
mPack with EN 50 table / wall unit (incl. 90° Angled Adaptor, Instrument support for Professional L Headband) [03]	**X-095.17.302**

Loupes & Headlights

HEINE® ML 4 LED HeadLight with DV 1 Digital Video Camera

DV 1 – for high-resolution, digital images

NEW!
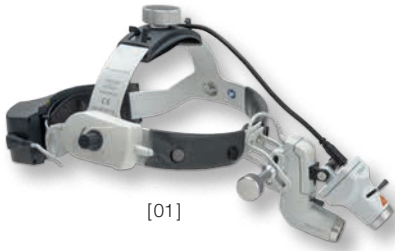
[01]

:• **High-resolution video camera.** 1.3 Megapixel, 1,280 x 960 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 800 mm.
:• **Automatic white balance.**
:• Connection of the camera via a standard USB 2.0 interface. Reliable, uncomplicated data transfer.
:• **Compact.** Lightweight design (50 g, camera head without cable, total weight 410 g).
:• **Connecting cable 3 m.**
:• **Perfect Integration.** HeadLight, Digital Video Camera and Optional Binocular Loupe are designed and manufactured in-house.

[02]
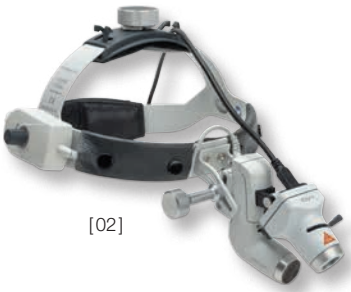
ML 4 LED HeadLight with DV 1	
ML 4 LED HeadLight with DV 1 digital video camera and mPack UNPLUGGED with plug-in transformer [01]	**J-008.31.470**
ML 4 LED HeadLight with DV 1 digital video camera and mPack with plug-in transformer [02]	**J-008.31.471**

HEINE® MD 1000 Fiber Optic (F.O.) Headlight

:· **Compact, high-tech optics** for homogeneous, coaxial, exceptionally-bright illumination.
:· **Ultra-light, highly-flexible fiber optic cable** with gown clips, length 3 m.
:· **Height and angle of illumination adjustable by a single control.**
:· **Lightweight, flexible Headband Professional L:** Adjustable for height and width with detachable soft leather forehead cushion.
:· **Adjustable light spot** with sterilizable lever.
:· **Can be combined with HEINE HR and HRP Binocular Loupes** for magnification from 2.5 x – 6 x.
:· **Can be fitted with a CCD camera.**
:· **Light source: HK 7000 F.O. Projector.**

Technical Specification

Illumination	Up to **35,000 Lux** with HK 7000 F.O. Projector at a working distance of 250 mm
Colour Temperature	**3,300 Kelvin** with HK 7000 F.O. Projector
Light Source	HK 7000 F.O. Projector
Spot Adjustment	Adjustable spot size from **20 mm to 70 mm** at a distance of 200 mm and **45 mm to 180 mm** at a distance of 500 mm
Angle of Declination	Individually-adjustable
Brightness control	Stepless brightness control on Light Source

MD 1000 F.O. Headlight

with Headband Professional L	**J-003.31.231**

HEINE® MD 1000 F.O. Headlight with HR / HRP Optics

The MD 1000 is optionally supplied with HR/HRP Binocular Loupes including i-View loupe mount and 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:** Provides any angle of view and flips up the optics independently of the illumination beam.

MD 1000 F.O. Headlight with HR/HRP Binocular Loupes

The following order numbers include: MD 1000 F.O. Headlight, HR/HRP optics with i-View and S-GUARD, Cleaning Fluid

Kit 1: with **HR** Binocular Loupe 2.5 x / 340 mm	**J-003.31.245**
Kit 2: with HR Binocular Loupe 2.5 x / 420 mm	**J-003.31.246**
Kit 3: with **HRP** Binocular Loupe 3.5 x / 420 mm	**J-003.31.247**
Kit 4: with HRP Binocular Loupe 4 x / 340 mm	**J-003.31.248**
Kit 5: with HRP Binocular Loupe 6 x / 340 mm	**J-003.31.249**

5 Steri-levers for i-View loupe mount	**C-000.32.399**

Loupes & Headlights