



HEINE Headlights



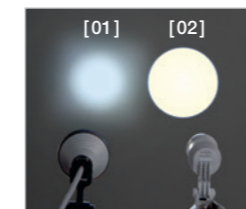
	LED MicroLight	ML4 LED HeadLight	MD 1000 Headlight
<b>Technical Data</b>			
Type of Light	LED	LED	F.O.
Light Intensity (at 250mm working distance)	<b>Up to 40,000 Lux</b>	<b>Up to 50,000 Lux</b>	<b>Up to 35,000 Lux</b> with HK 7000 Projector
Color Temperature (Kelvin)	<b>4,500K</b>	<b>4,500K</b>	<b>3,300K</b> with HK7000 Projector
Spot Size (at 420mm working distance)	<b>81 mm</b>	<b>30 – 80mm</b>	<b>40 – 150 mm</b>
Power Sources / operating time	mPack LL <b>17 hours</b>	mPack UNPLUGGED <b>3.5 hours</b> mPack <b>8.5 hours</b>	F.O. Projector
Weight	<b>50g</b> with S-FRAME <b>165g</b> with Lightweight Headband	<b>260g</b> <b>460g</b> with mPack UNPLUGGED	<b>435g</b>
Angle of Declination	Fully adjustable	Fully adjustable	Fully adjustable
Light Intensity Control	<b>0 – 100 %</b>	<b>0 – 100 %</b>	<b>0 – 100 %</b>
<b>Features</b>			
Adjustable Spot Size	--	<input type="checkbox"/>	<input type="checkbox"/>
Waterproof	<input type="checkbox"/>	--	--
Optional Yellow Filter	<input type="checkbox"/>	<input type="checkbox"/>	--
Polarization Filter	--	<input type="checkbox"/>	--
Expandable with HR and HRP Loupes	--	<input type="checkbox"/>	<input type="checkbox"/>
Optional Video Version	--	<input type="checkbox"/>	--
Head-worn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spectacle-worn	<input type="checkbox"/>	--	--
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HEINE® LED MicroLight

Ultralight Universal Headlight – now with LED<sup>HQ</sup>



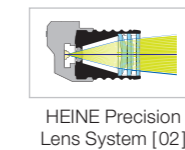
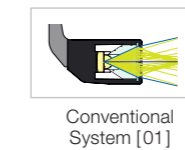
- Compact and Lightweight
- Coaxial Illumination
- Up to 40,000 Lux / 250mm distance



- **LED in HQ** – the new standard in LED illumination defining optimal light intensity, homogeneity and colorrendering 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 <b>40,000 Lux</b> at a working distance of 250 mm
Color Temperature	<b>4,500 Kelvin</b>
LED Operating Life	Up to <b>50,000 hours</b>
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	<b>17 hours</b> of continuous ON time at full power with mPack LL



- **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 (50g together with LED MicroLight).
- **Tough polycarbonate protective lenses.**

• HEINE® Lightweight Headband

- **Lightweight** (165g 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.
- ∴ **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 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 126.

HEINE LED MicroLight® Sets

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
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[01]



[02]



[03]

HEINE® ML4 LED HeadLight

Ultra bright coaxial illumination – Now with LED<sup>HQ</sup>



- ∴ 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 colorrendering for each individual examination situation.
- ∴ **Adjustable illumination spot size:** 30mm to 80mm spot size range (at 420mm 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 ML4 Professional headband has multiple adjustment points and soft padding for comfort and stability, even during long examinations.
- ∴ **Optional Filters.** Polarization filter P2 improves contrast and yellow filter reduces blue light.

Technical Specification

Illumination	Up to <b>50,000 Lux</b> at a working distance of 250mm
ColorTemperature	<b>4,500 Kelvin</b>
LED Operating Life	Up to <b>50,000 hours</b>
Spot Adjustment	<b>30mm to 80mm</b> at 420mm working distance
Angle of Declination	Stepless and individually adjustable for every examination
Rheostat	Headband-mounted
Operating Time	<b>8.5 hours</b> with mPack and <b>3.5 hours</b> 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 126.

∴ 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

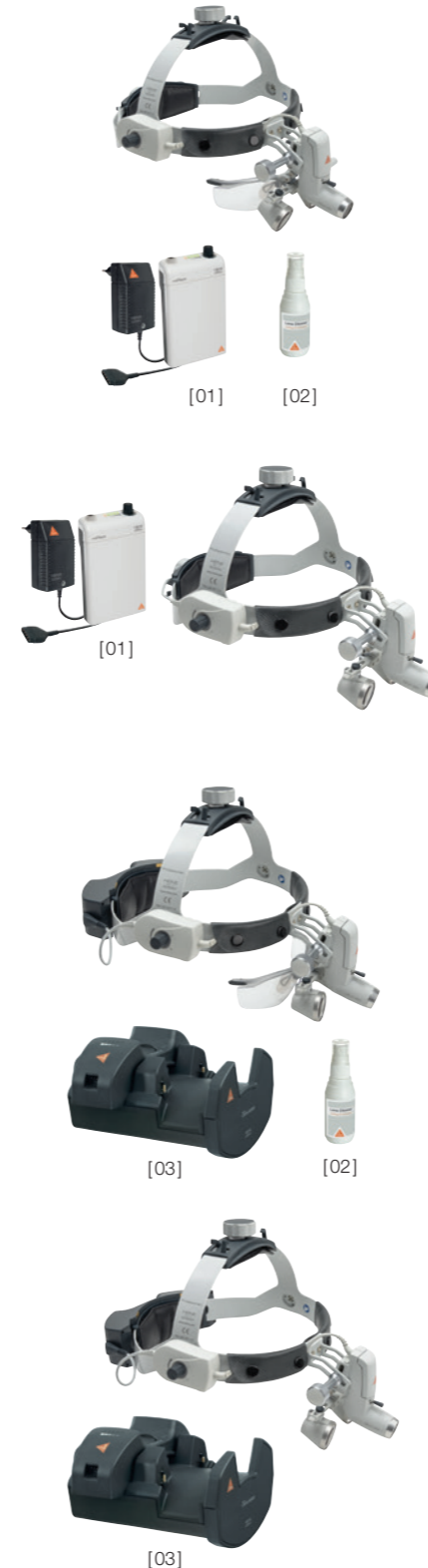


ML4 LED HeadLight with Headband Professional L and Power Sources	
ML4 LED HeadLight without power source [01]	J-008.31.410
ML4 LED HeadLight with plug-in transformer [01] + [02]	J-008.31.411
ML4 LED HeadLight with mPack and plug-in transformer [01] + [03]	J-008.31.413
ML4 LED HeadLight with mPack UNPLUGGED 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, 2m [07]	X-000.99.668
<b>NEW:</b> Polarization filter P2 for ML4 LED and HR Loupes [08] + [09]	J-000.31.326
<b>NEW:</b> Spare polarization filter P2 for HR Loupes (2 pairs) [09]	C-000.32.536



HEINE® ML4 LED HeadLight with HR/HRP Optics



The ML4 LED HeadLight is optionally supplied with HR/HRP Binocular Loupes including 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.

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 <b>HR</b> 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 <b>HRP</b> 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 <b>HR</b> 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 <b>HRP</b> 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 <b>HR</b> 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 <b>HRP</b> 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

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 <b>HR</b> 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 <b>HRP</b> 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



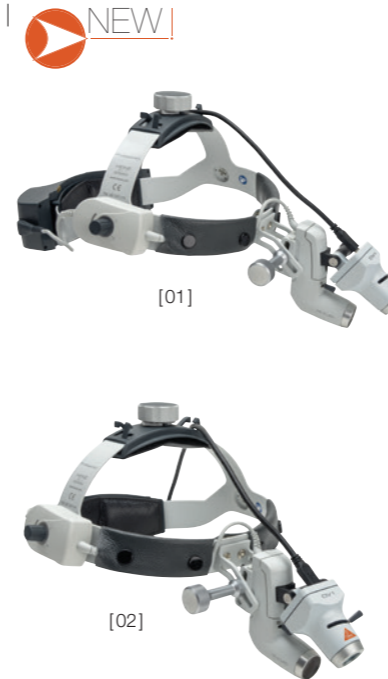
Retrofitting Set HR/HRP Binocular Loupes for ML4 LED HeadLight		
The sets enable you to equip your existing ML4 LED HeadLight with a binocular loupe. The set contains HR/HRP optics with i-View, S-GUARD splash protection and cleaning fluid [01]		
with <b>HR</b> Binocular Loupe	2.5x/340mm	<b>J-000.31.370</b>
with HR Binocular Loupe	2.5x/420mm	<b>J-000.31.371</b>
with <b>HRP</b> Binocular Loupe	3.5x/420mm	<b>J-000.31.372</b>
with HRP Binocular Loupe	4x/340mm	<b>J-000.31.373</b>
with HRP Binocular Loupe	6x/340mm	<b>J-000.31.374</b>
5 Steri-levers for i-View loupe mount for ML4 LED HeadLight [02]		<b>C-000.32.399</b>

Power Sources



mPack and plug-in Transformer [01]	<b>X-007.99.672</b>
Plug-in Transformer for ML4 LED HeadLight [02]	<b>X-095.16.330</b>
mPack with EN50 table/wall unit (incl. 90° Angled Adaptor, Instrument support for Professional L Headband) [03]	<b>X-095.17.302</b>

HEINE® ML4 LED HeadLight with DV1 Digital Video Camera  
DV1 – for high-resolution, digital images



- **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.

ML4 LED HeadLight with DV1	
ML4 LED HeadLight with DV1 digital video camera and mPack UNPLUGGED with plug-in transformer [01]	<b>J-008.31.470</b>
ML4 LED HeadLight with DV1 digital video camera and mPack with plug-in transformer [02]	<b>J-008.31.471</b>





## 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 3m.
- ∴ **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 2.5x – 6x.
- ∴ **Can be fitted with a CCD camera.**
- ∴ **Light source: HK7000 F.O. Projector.**

### Technical Specification

Illumination	Up to <b>35,000 Lux</b> with HK7000 F.O. Projector at a working distance of 250 mm
Color Temperature	<b>3,300 Kelvin</b> with HK 7000 F.O. Projector
Light Source	HK 7000 F.O. Projector
Spot Adjustment	Adjustable spot size from <b>20 mm to 70 mm</b> at a distance of 200mm and <b>45 mm to 180 mm</b> at a distance of 500mm
Angle of Declination	Individually adjustable
Brightness control	Stepless brightness control on Light Source

### MD1000 F.O. Headlight

with Headband Professional L	<b>J-003.31.231</b>
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## HEINE® MD 1000 F.O. Headlight with HR/HRP Optics

The MD1000 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.



### MD1000 F.O. Headlight with HR/HRP Binocular Loupes

The following order numbers include: MD1000 F.O. Headlight, HR/HRP optics with i-View and S-GUARD, Cleaning Fluid

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

5 Steri-levers for i-View loupe mount	<b>C-000.32.399</b>
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