

**HEINE** QUALITY  
MADE IN GERMANY

∴ **HEINE OMEGA 500<sup>®</sup>**  
∴ **HEINE OMEGA 500<sup>®</sup>**  
**UNPLUGGED**



**CE** 93/42 EWG/CEE/EEC

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## Allgemeine Gewährleistung

Anstelle der gesetzlichen Gewährleistungsfrist von 2 Jahren übernehmen wir für dieses Gerät (ausgenommen Verbrauchsmaterialien wie z.B. Lampen, Tips und Batterien) eine Garantie von 5 Jahren ab Warenauslieferung ab Werk. Diese Garantie gilt für einwandfreies Arbeiten bei bestimmungsgemäßer Verwendung und Beachtung der Gebrauchsanweisung. Während der Dauer der Gewährleistung und Garantie werden auftretende Fehler und Mängel am Gerät kostenlos beseitigt, soweit sie nachweislich auf Material-, Verarbeitungs- und/oder Konstruktionsfehlern beruhen. Rügt ein Besteller während der Gewährleistung einen Sachmangel, so trägt er stets die Beweislast dafür, dass das Produkt bereits bei Erhalt der Ware mangelhaft war. Diese gesetzliche Gewährleistung und die Garantie beziehen sich nicht auf solche Schäden, die durch Abnutzung, fahrlässigen Gebrauch, Verwendung von nicht original HEINE Teilen / Ersatzteilen (insbesondere Lampen, da diese speziell für HEINE Instrumente nach folgenden Kriterien entwickelt wurden: Farbtemperatur, Lebensdauer, Sicherheit, optische Qualität und Leistung), durch Eingriffe nicht von HEINE autorisierter Personen entstehen oder wenn Vorschriften in der Gebrauchsanweisung vom Kunden nicht eingehalten werden. Weitere Ansprüche, insbesondere Ansprüche auf Ersatz von Schäden, die nicht am HEINE Produkt selbst entstanden sind, sind ausgeschlossen.

Bei **Reparaturen** wenden Sie sich bitte an Ihren Fachhändler, der das Gerät an uns oder unsere zuständige Vertretung weiterleitet.

## Warranty

Instead of the usual 2-year guarantee, we guarantee this device for 5 years from the date of delivery from our factory (this excludes consumables such as bulbs, tips and batteries). We guarantee the proper function of the unit provided it is used as intended by the manufacturer and according to the instructions for use. Any faults or defects which occur during the guarantee period will be repaired free of charge provided they are caused by faults in material, design or workmanship. In the case of a complaint of a defect in the product during the guarantee period, the buyer must prove that any such defect was present at the time the product was delivered. The usual legal guarantee and warranty do not apply to incorrect use, the use of non-original HEINE parts or accessories.

(Especially bulbs, as these are designed with emphasis on the following criteria: Color temperature, life expectancy, safety, optical quality and performance.) Also excluded are repairs or modifications made by persons not authorised by HEINE or cases where the customer does not follow the instructions supplied with the product. Further claims, in particular claims for damage not directly related to the HEINE product, are excluded.

For **repairs**, please contact your supplier, who will return the goods to us or our authorized agent.

## Garantie

A la place du délai de garantie légal de 2 ans, nous garantissons cet appareil (à l'exception des consommables comme par ex. les ampoules, les pointes et les piles) pendant cinq ans à compter de la livraison des marchandises départ usine. Nous garantissons le bon fonctionnement de l'instrument fourni, sous réserve qu'il soit utilisé selon les normes prescrites par le fabricant dans le respect du mode d'emploi. Tous les dysfonctionnements ou les pannes intervenant pendant la période de garantie légale et de garantie de l'entreprise seront réparés gratuitement, à condition qu'ils résultent d'un défaut des composants, de la conception ou de la fabrication. En cas de réclamation pour un défaut pendant la période de garantie légale, l'acheteur devra apporter la preuve que ce défaut existait au moment de la livraison. Cette garantie légale et la garantie de l'entreprise ne s'appliquent pas aux dommages résultant d'une usure normale, d'une utilisation incorrecte, de l'utilisation de pièces / pièces de rechange non d'origine HEINE (en particulier les ampoules, qui sont conçues spécialement pour HEINE selon les critères suivants : couleur de température, longévité, sécurité, qualité optique et performances). Sont également exclues toutes les réparations ou modifications effectuées par des personnes non autorisées par HEINE, ainsi que dans les cas où le client ne respecte pas les instructions du mode d'emploi. Toutes réclamations ultérieures, en particulier pour le remplacement de dommages non directement liés au produit HEINE sont exclues. Pour les **réparations**, contactez votre fournisseur, qui nous retournera les marchandises ou les adressera à notre agent agréé.

## Garantía

En vez del plazo de garantía legal de 2 años asumimos para este aparato (a excepción de materiales fungibles como p. ej. lámparas, espejos y pilas) una garantía durante cinco años a partir de la fecha de la salida de mercancía desde fábrica. Esta garantía se basa en un funcionamiento de acuerdo con la finalidad del aparato y cumpliendo las instrucciones de manejo. Durante el período de garantía legal y la garantía adicional se reparan los fallos o deficiencias que pueda sufrir el aparato sin gastos, siempre que estos tengan su origen y siendo demostrables en deficiencias de material, mano de obra o constructivos. En el caso de queja por defecto en el producto durante la garantía, el comprador debe demostrar que el producto en el momento de su recepción ya era defectuoso. Esta garantía legal y la garantía adicional no son aplicables para deterioros que surjan por desgaste, empleo descuidado, incorporación de repuestos no originales de HEINE/recambios (sobre todo lámparas, ya que éstas se desarrollaron especialmente para instrumentos HEINE según los siguientes criterios: color de temperatura, duración, seguridad, calidad y rendimiento óptico), intervenciones de personal no autorizado por HEINE o en caso de que el cliente no respete las instrucciones del manual de usuario. Otras reclamaciones como p. ej. sustitución por daños que no se hayan originado directamente en el producto de HEINE quedan excluidos.

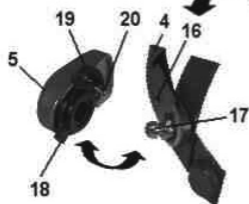
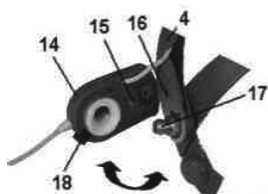
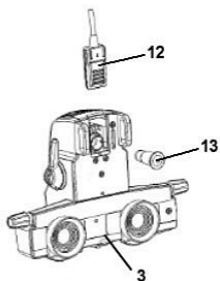
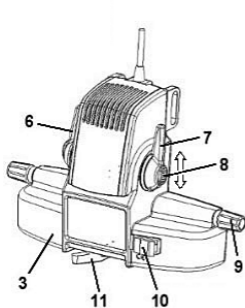
En caso de **reparaciones** diríjase a su proveedor que remitirá el aparato a fábrica o al taller oficial correspondiente.

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Gekauft bei / Bought from / Acheté chez / Comprado a

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## Garanzia

Invece degli usuali 2 anni di garanzia, noi garantiamo questo strumento per 5 anni dalla data di spedizione dalla nostra fabbrica (questo esclude materiali di consumo quali lampadine, speculum e batterie). La garanzia è valida se il dispositivo viene utilizzato in base alla destinazione d'uso del produttore e secondo le istruzioni d'uso. Durante il periodo di garanzia verranno riparati gratuitamente imperfezioni e difetti riscontrati come difetti di produzione, di progettazione o di materiali. In caso di reclamo di un difetto sullo strumento durante il periodo di garanzia, l'acquirente deve dimostrare che tale difetto era presente all'atto della spedizione. L'usuale garanzia legale e la speciale garanzia non coprono difetti derivanti da usura, uso scorretto, impiego di parti o accessori non originali HEINE (specialmente lampadine, le quali sono state prodotte con particolare rilievo sui seguenti criteri: temperatura di colore, durata, sicurezza, qualità ottica e performance). Sono anche escluse riparazioni e modifiche effettuate da personale non autorizzato da HEINE o casi dove il cliente non si è attenuto alle istruzioni d'uso fornite con il prodotto. Ulteriori reclami, in particolare reclami per danni non direttamente riconducibili al prodotto HEINE, sono esclusi. Per **riparazioni**, contattate il vostro fornitore che ritornerà il dispositivo a noi o al nostro agente autorizzato.

## Algemene garantievoorwaarden

In tegenstelling tot de wettelijke garantieperiode van 2 jaar verlenen wij voor dit apparaat / instrument een garantie van 5 jaar ingaande op de dag van aflevering door de fabrikant (uitgezonderd hiervan zijn verbruiksmaterialen zoals b.v. lampjes, tips en batterijen). Deze garantie geldt voor een goed functioneren bij normaal gebruik volgens de voorschriften en adviezen in de gebruiksaanwijzing. Gedurende de garantieperiode worden defecten kosteloos hersteld indien deze aantoonbaar zijn ontstaan door materiaal-, productie- of constructiefouten. In geval van een garantie-aanspraak binnen de garantietermijn dient de koper aan te tonen dat het defect al direct bij ontvangst van het product aanwezig was. Deze wettelijke waarborg en garantie zijn niet van toepassing op normale gebruiksslijtage, foutief gebruik, bij gebruik van niet-originele HEINE onderdelen en toebehoren (dit geldt vooral en met name voor lampjes, daar deze voor elk HEINE-instrument speciaal zijn ontwikkeld op basis van de volgende eigenschappen: kleurtemperatuur, levensduur, veiligheid, optische eigenschappen en lichtsterkte), tevens vervalt de garantie bij ingrepen door niet door HEINE hiertoe geautoriseerde personen, of wanneer de voorschriften van deze gebruiksaanwijzing niet worden opgevolgd. Verdere aansprakelijkheid, in het bijzonder aanspraken op vergoeding van schaden, anders dan aan het HEINE product zelf, zijn uitdrukkelijk uitgesloten. In het geval van **reparatie** kunt u contact opnemen met uw leverancier, die het artikel aan ons of aan onze vertegenwoordiging kan zenden.

## Takuu

Poiketen tavanomaisesta kahden vuoden takuusta, myönnämme laitteelle viiden vuoden takuun tehdastoimituksesta (pois lukien kulutustarvikkeet kuten polttimot, suppilot ja akut). Takaamme laitteen moitteettoman toiminnan, kun laitetta käytetään asianmukaisesti valmistajan ohjeita noudattaen. Laitteessa takuaikana esiintyvät materiaali-, valmistus- tai rakenneviat korjataan veloituksetta. Havaittaessa tuotteessa vika ostajan tulee osoittaa, että laitteen takuu on voimassa. Takuu ei koske vikoja, jotka ovat aiheutuneet normaalista kulumisesta, huolimattomasta käytöstä tai muiden kuin alkuperäisten HEINE- varaosien käytöstä tai muiden kuin valtuutetun huoltohenkilökunnan tekemistä muunnoksista tai korjauksista. Takuu raukeaa, jos laitteelle on tehty huoltotöitä muilla kuin Heinen valtuuttamilla henkilöillä tai käyttäjä ei noudata laitteen mukana tulleita käyttöohjeita. Laitteen **rikkoutumisesta** aiheutuneita välillisiä kustannuksia ei huomioida. Korjaustapauksissa ota yhteys laitteen myyjään.

## Garantia

Ao invés dos usuais 2 anos de garantia, nós garantimos este produto por 5 anos a partir da data de seu despacho de nossa fábrica (isto exclui consumíveis como as lâmpadas, espelhos e baterias). Nós garantimos o funcionamento adequado desta unidade provida desde que usada conforme o pretendido pelo fabricante e de acordo com as instruções para o uso. Serão reparados quaisquer defeitos ou falhas que ocorram durante o período de garantia gratuitamente desde que causados por falhas no material, desenho ou mão-de-obra. No caso da reclamação de defeito no produto durante o período de garantia, o comprador deverá provar de que o defeito se fazia presente no produto no momento em que foi despacho. A usual garantia legal e nossa garantia não se aplicam para o uso incorreto, uso de partes, peças ou acessórios não originais HEINE (Especialmente lâmpadas, pois estas são projetadas com ênfase nos seguintes critérios: Cor, temperatura, expectativa de vida, segurança, qualidade ótica e desempenho). Também exclui os reparos ou modificações feitos por pessoas não autorizadas por HEINE ou casos onde o consumidor não siga as instruções de uso supridas com o produto. Outras reclamações, em particular as reclamações por danos não diretamente relacionadas ao produto HEINE, estão excluídas. Para **reparos**, por favor, contate seu fornecedor, que encaminhará a mercadoria para nós ou agente autorizado.

Acquistato presso / Gekocht bij / Myyjä / Adquirido através de

il / Datum / Päivä / Data

# Instructions for use

ENGLISH

HEINE OMEGA 500®

HEINE OMEGA 500® UNPLUGGED



Please read these instructions carefully before using the HEINE OMEGA 500® and keep them in a safe place for future reference.

## Product overview

- |                                   |  |
|-----------------------------------|--|
| 1 Headband height adjustment knob | 13 Lamp  |
| 2 Adjustment knob                 | 14 Brightness control HC50                     |
| 3 Optics unit                     | 15 Guide pin                                   |
| 4 Optics overband                 | 16 Hole for guide pin                          |
| 5 Position control                | 17 Pin   |
| 6 Filter Control                  | 18 Release                                     |
| 7 Aperture Control                | 19 Detent plate                                |
| 8 Control Locks                   | 20 Guide pin                                   |
| 9 Rotary knob                     | 21 Cable guide                                 |
| 10 Mount for Teaching Mirror      | 22 Headband size adjustment knob               |
| 11 Operating lever                | 23 Segment cover                               |
| 12 Bulb cover                     | 24 HC50 connecting cable with UNPLUGGED socket |

## Safety

**Range of application:** The HEINE OMEGA 500® headband ophthalmoscope is designed solely for the examination of the retina.

**General Safety:** Use as little light as possible for the examination and ensure that the light is switched off after each examination.

### Safety in use:

- Do not use the equipment if it shows visible signs of damage.
- Use only power sources, which are approved for use in medical applications.
- The HEINE OMEGA 500® is compatible with existing 6 V HEINE ophthalmoscope power sources with the following exceptions:
  - HEINE EN15®
  - HEINE OMEGA 500® fitted with the HC50 headband rheostat is not compatible with the power sources HEINE E10®, Accubox II, EN20-1, EN30, E8.
- We can only guarantee the performance of the instrument when fitted with original HEINE accessories and spare parts.
- Do not remove the bulb when it is hot.

## Symbols



Observe the safety information



Power supply connector (9 VDC)



Instrument connector



The CE marking indicates that the product conforms to the provisions of Directive 93/42/EEG concerning medical products.

## Setting up the HEINE OMEGA 500®

### Operation with the HEINE mPack® or EN50:

To operate the HEINE OMEGA 500® with the HEINE mPack® or HEINE EN50®, connect the short cable (24) from the HC50 brightness control (14) to the connecting cable (Cinch) and secure it in the cable guide (21). Connect the connecting cable (Cinch) to the HEINE mPack® or the HEINE EN50® and set the brightness on the instrument with the HC50 brightness control (14), (Fig. ①).

### Operation with the mPack UNPLUGGED:

To operate the HEINE OMEGA 500® with the HEINE mPack® UNPLUGGED, first remove the cover from the rear segment (23) on the headband. To do this, slide the segment cover from the headband in the direction of the arrow (Fig. ②). Next, fit the HEINE mPack® UNPLUGGED to the headband. To do this, hold the headband with your left hand and using your right thumb, slide the HEINE mPack® UNPLUGGED to the left until it latches audibly. Connect the short cable (24) from the HC50 brightness control (14) to the HEINE mPack® UNPLUGGED. Switching on and adjustment of brightness are carried out by means of the rotary knob on the HC50 brightness controller (14), (Fig. ③).

## HEINE OMEGA 500® (C-004.33.500)

### Operation from other power sources (EN20, EN30, HC Converter):

For operation with power sources other than mPack or mPack UNPLUGGED connect the long cable by means of the cable clip, after having clicked the cable clip into the rear segment of the headband. On/off switching and brightness control is by means of the power source (Fig. ④).

## HEINE OMEGA 500® operation

### Basic Adjustments:

Switch the instrument on by means of the rotary knob (brightness control) on the HC50 brightness controller. Aperture wheel (7) and filter wheel (6) should be rotated upwards to select the large aperture with white light. Control (11) should be in the middle position.

The beam control (9) should be in the mid-position. Slide the eyepieces into position to match your P.D. or select the mid-position on the scale.

### Control Locks:

The aperture and filter controls can be locked into position by means of the lock (8) to avoid unintentional operation.

### Aperture Control:

3 different aperture sizes and a diffuser aperture can be selected by means of the aperture control (7). The choice of aperture depends mainly on the size of the patient's pupil. The diffuser is useful for photophobic patients and the examination of the periphery.

### Filter Control:

The filter control (6) can be used to select an interference red-free filter, a blue or a yellow filter which can be introduced into the illumination beam.

### Synchronized adjustment of Convergence and Parallax:

This feature ensures the best possible stereopsis and image quality for any pupil size by simultaneous adjustment of the observation and illumination beams. For a dilated pupil, move the control (11) underneath the instrument to the large circle position.

For a small pupil, move the control to the small circle position. The control (11) can be positioned anywhere between these two settings to select the optimum parallax and stereopsis (convergence) for any pupil size. The illumination beam can be adjusted vertically by the control (9).

### Teaching Mirror:

The optional teaching mirror can be slid onto the fixture (10) of the optics.

### **Changing the bulb:**

- First allow the instrument to cool down.
- Disconnect the instrument from the power source.
- Unscrew the control (2) so that the optics unit (3) is free to move.
- Slide the bulb cover (12) upwards. Do not pull on the cord.
- Swivel the optics unit (3) to enable the bulb (13) to be pulled out of the bulbholder.
- Clean the glass dome of the new bulb carefully with a soft cloth.
- Insert the new bulb so that the locating pin on the bulb body fits into the guide in the bulbholder.
- Re-fit the bulb cover (12) into the optics unit (3) and slide the bulb cover back down into position.

## **HEINE OMEGA 500® Headband**

### **Selecting the position of the optics overband:**

The overband (4) swivels and can be fixed into the following positions by means of the position lock (5) (upwards for the rest position, down for working positions 1 or 2). To release the overband, press the position lock control (5) and rotate it. Do not try to force the overband up or down. With practice a comfortable working position can be selected and, when properly adjusted, the optics unit will always return to the desired working position.

### **Fitting the headband rheostat HC50:**

When fitting, ensure that the guide pin (15) of the headband rheostat HC 50 (14) locates correctly in the opening (16) of the overband (4). Locate the connecting cord between the power source and the headband rheostat in the cord clip (21) at the back of the headband.

### **Fitting the position control:**

Before fitting the position control (5) ensure that the positioning plate (19) is swivelled upwards as far as possible. To do this, press the positioning plate (19) and swivel it upwards simultaneously. Ensure that the optics over-band is in the lower position and that the guide pin (20) locates in the opening (16). Now press the position control (5) on to the guide (17) until it clicks into place.

### **Removing the headband rheostat HC50 and position control:**

The control of the HC 50 (14) and the position control (5) can be fitted on the right- or left-hand side of the headband according to preference. To remove, press the release (18) and pull the control off the headband.

### **Adjusting the optics:**

Unscrew the control (2) so that the optics unit (3) is free to move. (The position of this control can be reversed for left-handed operation if required).

Place the instrument on your head and adjust the height and circumference by means of the adjusters (22) and (1) until a comfortable fit is achieved. The rear part of the headband can be pivoted and is self-latching.

Adjust the optics to a position as close as possible to your eyes and view the light spot at a distance of about 30 – 40 cm without accommodating. A small, pencil-sized object should be sharply-focused (the eyepieces incorporate 2D lenses). Spectacle wearers should examine through the “far” part of the spectacle lens). Adjust the optics unit so that the light spot appears centred vertically in position of the headband or to choose an alternative working position by pressing your view and screw the adjuster knob in (2). (It may be necessary to correct the lever (5) and swivelling the optics overband into a different position. If the light spot needs horizontal adjustment, simply rotate the headband slightly to the side. Adjust up the PD setting by closing first one then the other eye and observing an object in the middle of the light spot while adjusting the appropriate eyepiece. Repeat until the object is in the middle of the field of view, and a single image is obtained. Take off the instrument and check that the PD is symmetrically-adjusted. If not, repeat the selection procedure as above. Correct adjustment of PD is particularly important when examining through a small pupil. Each user should adjust the setting to match his own PD.

Every instrument includes two plano lenses, which can be exchanged for the 2D lenses which are fitted as standard equipment.

## Cleaning and maintenance

- Before cleaning, disconnect from the power source.
- Use only a suitable cloth to wipe the surfaces of the instrument.
- The instrument may be wiped clean with a damp cloth. Any cleaning agent used must be suitable for use on plastic surfaces.
- An alcohol-based surface disinfectant can be used to clean the instrument.
- The use of a spray disinfectant and soaking or disinfection in a machine are not permitted.
- Check the correct operation of the HEINE OMEGA 500® at regular intervals.
- Use the instrument only when you are sure that it is operating correctly.

## Technical specification

Power/current consumption:	11 W (with 10 watt lamp) 5.5 W (with 5 watt lamp)
Duration of use with 10 W-lamp:	2 h with HEINE mPack® 1 h with HEINE mPack® UNPLUGGED
Duration of use with 5 W-lamp:	4 h with HEINE mPack® 2 h with HEINE mPack® UNPLUGGED
Weight:	470 g (Instrument)

## Environmental conditions

Normal use:	+10 °C to +40 °C
Storage:	+5 °C to +45 °C
Transport:	-20 °C to +45 °C
Relative humidity:	10 % to 75 %
Air pressure:	700 hPa to 1060 hPa

## Applicable Standards

<b>IEC 60601-1:1996</b>	(Medical Electrical Equipment – General Requirements for Safety)
<b>IEC 60601-1-2</b>	(MEDICAL ELECTRICAL EQUIPMENT – PART 1: GENERAL REQUIREMENTS FOR SAFETY 2. COLLATERAL STANDARD: ELECTROMAGNETIC COMPATIBILITY – REQUIREMENTS AND TESTS)
<b>ISO/DIS 10943</b>	(indirect ophthalmoscopes)



