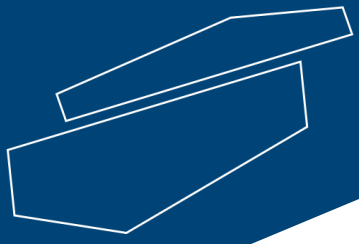
LYNX MICROSCOPES

HIGH-END STEREOMICROSCOPE, L100

Please read the User Manual carefully before use, and follow all operating and safety instructions!



user manual

english

User Manual

EN

HIGH-END STEREOMICROSCOPE, L100

Preface
Thank you for purchasing our product. Users should read this manual carefully, follow the instructions and procedures, and be aware of all preventive measures when using this instrument.

Service
If help is needed, you can always contact your dealer or Labbox via www.labbox.com.

Please provide the customer service representative with the following information:

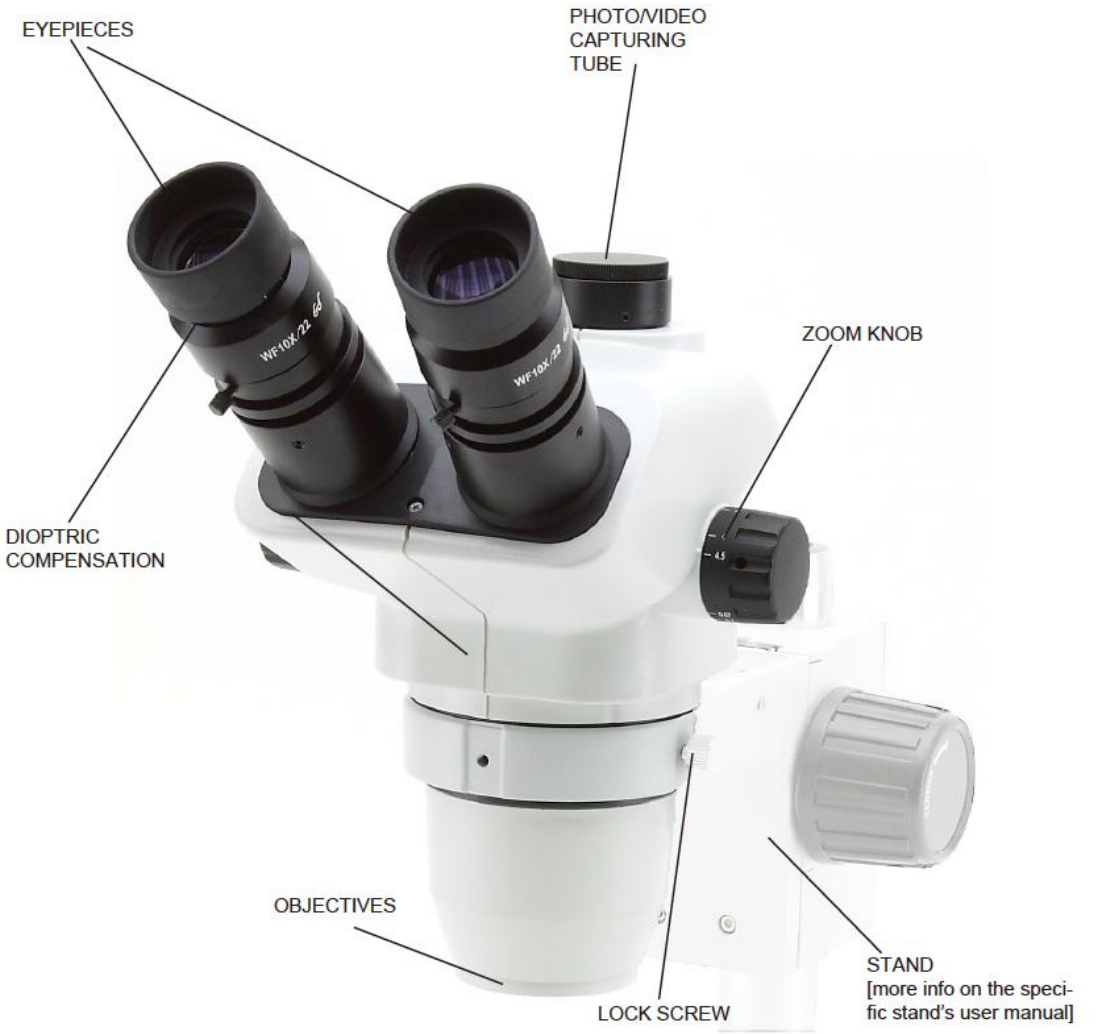
- Serial number
- Description of the problem
- Your contact information

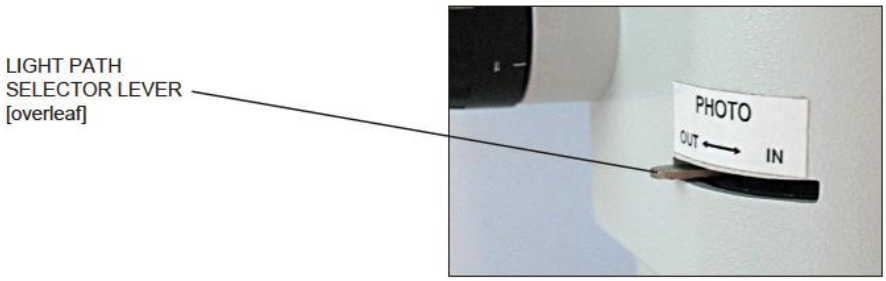
Warranty
This instrument is guaranteed to be free from defects in materials and workmanship under normal use and service for a period of 24 months from the date of invoice. The warranty is extended only to the original purchaser and shall not apply to any product or parts that have been damaged due to improper installation, improper connections, misuse, accidents, or abnormal conditions of operation.

For claims under the warranty, please contact your supplier.

INDEX

1. Description





2. Introduction

The ICOE stereo zoom head L100 is a high-performance Greenough microscope with continuous zoom system 0.67x - 4.5x, and widefield high-point 22mm eyepieces.

These instruments are made for examining any three-dimensional object in industrial, biological and educational applications. They are equipped with two separate optical systems that give an excellent field depth to the image, a stereoscopic effect.

There are, at the moment, 2 models in the series:
L100 Binocular version.
L100 Trinocular version.
Suitable for photo/video applications

3. Unpacking and assembly

The components for the L100 series are shipped in a Styrofoam box for protection. Open the box with care to avoid that any components fall out and get damaged.
If the instrument has been damaged during the transport, please contact both the carrier and your supplier immediately.
Put the stereo head onto the focusing carrier of the stand (sold separately) and lock it by the lock screw on the side of the focusing carrier. During the operation of the microscope, this screw should always be locked to maintain maximum stability.
Unpack the eyepieces and other optical parts carefully and place the eyepieces into the eyepiece tubes. Make sure that the eyecups are placed on each eyepiece, for a more comfortable view.
When handling the optical parts, avoid touching any lens surface with naked hand or fingers. Any fingerprint or grease stains will negatively affect the image quality.

4. Using the microscope

4.1 Adjust interpupillary distance

Hold the right and left eyepiece tube with both hands and adjust the interpupillary distance by moving the two parts until one circle of light can be seen. If two circles appear, the interpupillary distance is too big, and if two overlapped circles appear, the interpupillary distance is too small.

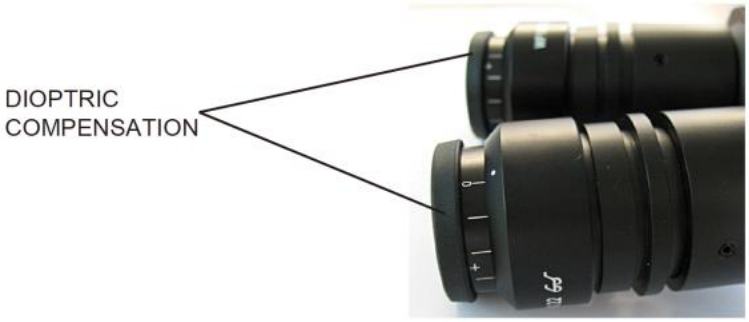
4.2 Focus

Put the sample to be observed on the plate and turn the zoom to the highest magnification using the bilateral zoom knob. Try to focus the sample using the focusing knobs of the stand.

If necessary, adjust the height of the microscope head along the vertical stand. Remember to lock the lock screw and support collar after aligning the height of the microscope.

4.3 Dioptric compensation

This compensation makes it possible for people with glasses to adjust the microscope to their eyes and use the microscope without glasses. Turn the zoom down to the lowest magnification. Adjust the dioptre compensation ring of the right eyepiece tube until the image of the right eyepiece is clear and sharp. Repeat the procedure for the left eyepiece. Then, check the focus of the image for the whole zoom range. It should now be perfectly parfocal (focus is always maintained during the change of magnification).



4.4 Magnification and working distance

The total magnification varies depending on the eyepieces and auxiliary objectives used. With the bilateral zoom knob, the user can change the magnification in a factor of 6.72 with perfect parfocality and the image is always centred.

Select the desired magnification by adjusting the bilateral zoom knob. Change the eyepieces and/or add an appropriate magnifying objective lens if necessary. The total magnification used can be calculated by the following equation:

Total magnification = Eyepiece magnification x Zoom magnification x Objective lens magnification

Normal working distance for the standard configuration (1x objective lens) is 100 mm.

4.5 Video capturing (optional)

Two kinds of observation heads, binocular or trinocular, are available for the L100 series. They can all be connected to cameras via an adaptor, for digital and analogical photo and video capturing.

Before taking a picture or filming video, pull out the light path selector lever so the light will be deflected into the photo tube. At the same time, no light will enter the right eyepiece tube for observation. Please refer to the adaptor and camera manuals for further details.

5. Maintenance

5.1 Microscopy environment

This microscope is recommended to be used in a clean, dry and shock free environment with a temperature of 0-40°C and a maximum relative humidity of 85 % (non-condensing). Use a dehumidifier if needed.

5.2 To think about when and after using the microscope

• The microscope should always be kept vertically when moving it and be careful so that no moving parts, such as the eyepieces, fall out.

• Never mishandle or impose unnecessary force on the microscope.

• Never attempt to service the microscope yourself.

• After use, turn off the light immediately, cover the microscope with the included dust cover, and keep it in a dry and clean place.

5.3 Cleaning the optics

• If the optical parts need to be cleaned try first to: use compressed air.

• If that is not sufficient: use a soft lint-free piece of cloth with water and a mild detergent.

• And as a final option: use the piece of cloth moistened with a 3:7 mixtures of ethanol and ether.

Note: *ethanol and ether are highly flammable liquids. Do not use them near a heat source, near sparks or near electric equipment. Use these chemicals in a well-ventilated room.*

• Remember to never wipe the surface of any optical items with your hands. Fingerprints can damage the optics.

• Do not disassemble objectives or eyepieces in attempt to clean them.

6. Technical Specifications

Head	45° inclined, 360° rotatable
Eyepiece	WF10x/22mm high point widefield
Interpupillary distance	55-75mm
Dioptric adjustment	+/-5DP
Zoom	0.67x-4.5x, zoom ratio: 6.72
Working distance	100mm (without additional lens)

7. Optional Accessories

7.1 Eyepieces and auxiliary objectives

With the standard equipment is included a pair of 10x eyepieces. There are also 15x and 20x

eyepieces available as optional accessories.

To change the eyepieces, remove the original eyepieces and replace with the new pair.

The standard objective is 1x, and other magnifications are available. An additional objective can be needed to obtain a specific magnification or a different working distance.

The additional objective is mounted simply by screwing it onto the stereo-head. The height of the microscope must be re-adjusted as the working distance is changed when additional objective is used.

Please contact us for more information and a complete list of accessories.

Nota importante para los aparatos electrónicos vendidos en España

Instrucciones sobre la protección del medio ambiente y la eliminación de aparatos electrónicos:

Los aparatos eléctricos y electrónicos marcados con este símbolo no pueden ser eliminados en forma de residuos urbanos.

De conformidad con la Directiva 2012/19/UE, los usuarios de la Unión Europea de aparatos eléctricos y electrónicos, tienen la posibilidad de devolver sus RAEE para su eliminación al distribuidor o fabricante del equipo después de la compra de uno nuevo. La eliminación ilegal de aparatos eléctricos y electrónicos es castigada con multa administrativa.

Remarque importante pour les appareils électroniques vendus en France

Informations sur la protection du milieu environnemental et élimination des déchets électroniques :

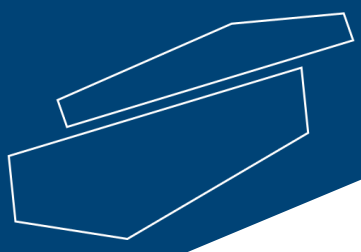
Les appareils électriques et électroniques portant ce symbole ne peuvent pas être jetés dans les décharges.
En réponse à la règlementation, Labbox remplit ses obligations relatives à la fin de vie des équipements électriques de laboratoire qu'il met sur le marché en finançant la filière de recyclage de ecosystem dédiée aux DEEE Pro qui les reprend gratuitement (plus d'informations sur www.ecosystem.eco).
L'élimination illégale d'appareils électriques et électroniques est punie d'amende administrative.

Nota importante per le apparecchiature elettroniche vendute in Italia

Istruzioni sulla protezione ambientale e sullo smaltimento dei dispositivi elettronici:

Le apparecchiature elettriche ed elettroniche contrassegnate con questo simbolo non possono essere smaltite come rifiuti urbani.
In conformità con la Direttiva 2012/19 / UE, gli utenti dell'Unione Europea di apparecchiature elettriche ed elettroniche hanno la possibilità di restituire i propri RAEE per lo smaltimento al distributore o al produttore di apparecchiature dopo averne acquistato uno nuovo. La rimozione illegale di apparecchiature elettriche ed elettroniche è punibile con una sanzione amministrativa.

.



www.labbox.com