

# 300X-1200X MIKROSKOP MICROSCOPE



**EN** Operating instructions

Wichtige Informationen für deine Eltern • Important information for your parents to read  
Important pour tes parents • Belangrijk voor je ouders • Informazioni importanti per i genitori  
Importante para tus padres • Важная информация для родителей

**(EN) WARNING:**

Choking hazard—This product contains small parts that could be swallowed by children.  
This poses a choking hazard.

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## General Warnings

- **Choking hazard**—This product contains small parts that could be swallowed by children. This poses a choking hazard.
- **Risk of electric shock**—This device contains electronic components that operate via a power source (power supply and/or batteries). Only use the device as described in the manual, otherwise you run the risk of an electric shock.
- **Risk of fire/explosion**—Do not expose the device to high temperatures. Use only the recommended batteries. Do not short-circuit the device or batteries, or throw them into a fire. Excessive heat or improper handling could trigger a short-circuit, a fire or an explosion.
- **Risk of chemical burn**—Make sure you insert the batteries correctly. Empty or damaged batteries could cause burns if they come into contact with the skin. If necessary, wear adequate gloves for protection.
- Do not disassemble the device. In the event of a defect, please contact your dealer. The dealer will contact the Service Centre and can send the device in to be repaired, if necessary.
- Tools with sharp edges are often used when working with this device. Because there is a risk of injury from such tools, store this device and all tools and accessories in a location that is out of the reach of children.

## Parts overview

1. Eyepiece
2. Focus knob
3. Objective turret
4. Stage
5. Mirror
6. Electronic light source
7. Base with battery compartment
8. Rubber base
9. Microscope arm
10. Colour-filter disc
11. Prepared Slides
12. Cover Plates
13. Blank Slides
14. Petri dish
15. Micro projector
16. Replacement bulb
17. 3X magnifying glass
18. Settling cylinder
19. Reservoir
20. Shrimp-farming accessories
21. Microscope instruments
22. Micro-slicer
23. Hatchery

## 1. What is a microscope?

A microscope contains two lens systems: the eyepiece and the objective. We're presenting these systems as one lens each so that the concept is easier to understand. In reality, however, the eyepiece (1) and the objective in the turret (3) are made up of multiple lenses.

The lower lens (objective) produces a magnified image of the prepared specimen placed on the stage (4). The picture, which you can't see, is magnified once more by the second lens (eyepiece, 1), which you can see as the 'microscope picture'.

## 2. Assembly and location

Before you start, choose an ideal location for using your microscope. It's important that you choose a spot with enough light for normal observation. Furthermore, it is recommended that you place the microscope on a stable surface, because a shaky surface will not lead to satisfactory results.

### 3. Normal observation

For normal observation, place the microscope in a bright location (near a window or desk lamp, for example). Remove the microscope from the package and tilt the microscope arm (9) so that it's in a comfortable viewing position for you.

Turn the focus knob (2) to the upper stop, and set the objective turret (3) to the lowest magnification. Now, take a look through the eyepiece and adjust the mirror (5) so that you see a uniform, bright circle of light. Or, you can use the electronic light source (6). You'll find further tips about the light source in the next section. Now, place a prepared slide (11) under the clips on the stage (4), directly under the objective. When you take a look through the eyepiece, you can see the magnified specimen. At this point, you still might see a slightly fuzzy picture. Adjust the image sharpness by slowly turning the focus knob (2) until the picture appears sharp and clear. You can now select a higher magnification by turning the objective turret and selecting a different objective.

When you do so, note that the sharpness of the picture must be adjusted again for the higher magnification. Also, the higher the magnification, the more light you will need for good illumination of the picture.

**TIP:** Avoid positioning the mirror so that it is exposed to direct sunlight, since it can cause a glare, which won't allow you to get a clear picture.

### 4. Observation (electronic light source)

To use the electronic light source (6), you need to install two 1.5-volt batteries in the base of the microscope (7). Remove the rubber base (8) on the microscope and insert the batteries according to the displayed +/- information. Reattach the rubber base to the microscope.

You can turn on the light by rotating it in the direction of the stage (4). Take a look through the eyepiece and adjust the light so that you get optimal picture brightness. Now you can observe in the same way as described in the previous section.

The bulbs for the electronic light can be replaced. One replacement bulb (16) is included. When you use another bulb, make sure to pay attention to the maximum wattage, which is displayed on the lamp body.

**TIP:** The higher the magnification you use, the more light is required for a good illumination of the picture. Therefore, always start your experiments with a low magnification.

### Projector


The included micro-projector (15) is ideal for looking at a specimen with multiple people at the same time. To use the projector, you also have to use the electronic light source (6). This way, you can show your results to your friends and family. Unscrew the eyepiece (1) from the microscope and place the micro-projector on the open eyepiece support so that the matte screen is pointing behind you. Adjust the light so that the matte screen is lit up brightly.


You can adjust the focus of the prepared slide image using the focus knob (2). Make sure to swivel the microscope arm (9) back into an upright position so that you can comfortably observe the specimen. In a dark room, it is also possible to project the microscope picture on a white wall. To do this, remove the matte screen. Swivel the tripod so that the upper edge of the projector is horizontal. Keep in mind that the image brightness is reduced and the picture will be darker if the projector is far away from the wall.

## Notes on Cleaning


- Before cleaning the device, disconnect it from the power supply by removing the plug or batteries.
- Only use a dry cloth to clean the exterior of the device. To avoid damaging the electronics, do not use any cleaning fluid.
- Protect the device from dust and moisture.
- The batteries should be removed from the unit if it has not been used for a long time.

## Disposal

 Dispose of the packaging materials properly, according to their type, such as paper or cardboard. Contact your local waste-disposal service or environmental authority for information on the proper disposal.

 Do not dispose of electronic devices in the household garbage!  
As per Directive 2002/96/EC of the European Parliament on waste electrical and electronic equipment and its adaptation into German law, used electronic devices must be collected separately and recycled in an environmentally friendly manner.

Empty, old batteries must be disposed of at battery collection points by the consumer. You can find out more information about the disposal of devices or batteries produced after 6 January 2006 from your local waste-disposal service or environmental authority.

 In accordance with the regulations concerning batteries and rechargeable batteries, disposing of them in the normal household waste is explicitly forbidden. Please make sure to dispose of your used batteries as required by law—at a local collection point or in the retail market. Disposal in domestic waste violates the Battery Directive.

Batteries that contain toxins are marked with a sign and a chemical symbol.



Cd<sup>1</sup>



Hg<sup>2</sup>



Pb<sup>3</sup>

- <sup>1</sup> battery contains cadmium
- <sup>2</sup> battery contains mercury
- <sup>3</sup> battery contains lead

### Warranty and warranty term extension

The warranty term is two years from the date of purchase. Please keep your proof of purchase. Register at [www.bresser.de/warranty](http://www.bresser.de/warranty) and fill out a brief questionnaire to get your warranty term extended to **five years**. Registration must be completed within three months of purchase (date of receipt) to validate the warranty. If you register thereafter, the warranty term will not be extended.

If you have problems with your device, please contact our customer service first. Do not send any products without consulting us first by telephone. Many problems with your device can be solved over the phone. If the problem cannot be resolved by phone, we will take care of transporting your device to be repaired. If the problem occurred after the warranty ended or it is not covered by our warranty terms, you will receive a free estimate of repair costs.

Service Hotline: +49 (0) 2872 - 80 74-210

#### Important for any returns:

Please make sure to return the device carefully packed in the original packaging to prevent damage during transport. Also, please enclose your receipt for the device (or a copy) and a description of the defect. This warranty does not imply any restriction of your statutory rights.

Your dealer: ..... Art. No.: .....

Description of problem: .....  
.....  
.....

Name: ..... Telephone: .....

Street: ..... Date of purchase: .....

City/Postcode: ..... Signature: .....

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