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› BRESSER Researcher Bino Binocular Microscope 5722100 User Manual

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Model: 5722100

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1. INTRODUCTION

Thank you for choosing the BRESSER Researcher Bino Binocular Microscope. This instrument is designed for detailed observation of microscopic specimens, offering a magnification range of 40x to 1000x. Its robust metal construction and advanced features make it suitable for various educational and research applications. This manual provides essential information for the proper setup, operation, and maintenance of your microscope.



Image 1.1: The BRESSER Researcher Bino Binocular Microscope, showcasing its main components.

2. SAFETY INFORMATION

Please read and understand all safety instructions before using the microscope to prevent injury or damage to the instrument.

- **Electrical Safety:** Ensure the power cord is properly connected to a grounded outlet. Do not operate the microscope with wet hands or in damp conditions. Disconnect power before cleaning or servicing.
- **Handling:** Always carry the microscope by its main body and base. Avoid touching optical surfaces with bare hands.
- **Eye Protection:** Prolonged observation may cause eye strain. Take regular breaks.
- **Children:** This microscope is not a toy. Adult supervision is required when children are using the instrument.
- **Environment:** Use the microscope in a stable, dust-free environment away from direct sunlight, high temperatures, and vibrations.

3. PACKAGE CONTENTS

Carefully unpack the box and verify that all components are present and undamaged. If any items are missing or damaged, contact your supplier immediately.

- Binocular Microscope Body
- 1 pair DIN Eyepieces WF 10x (23 mm diameter)
- 4x Nosepiece
- 4 DIN Objective Lenses: 4x/0.1, 10x/0.25, 40x/0.65, 100x/1.25 (oil immersion)
- Abbe Condenser with Iris Diaphragm
- Coaxial Cross Table with Vernier Scale
- Coaxial Fine and Coarse Focus Drive
- Immersion Oil
- Power Cord
- Dust Cover



Image 3.1: Microscope with included power cord and dust cover.

4. SETUP

Follow these steps to set up your BRESSER Researcher Bino Microscope:

1. **Placement:** Place the microscope on a stable, level surface.
2. **Eyepiece Installation:** Insert the WF 10x eyepieces into the binocular head.
3. **Power Connection:** Connect the power cord to the microscope's power input and then to a suitable electrical outlet.
4. **Illumination Check:** Turn on the illumination using the power switch and adjust the brightness with the dimmer control to ensure it is functioning.
5. **Condenser Adjustment:** Ensure the Abbe condenser is properly seated and centered.

5. OPERATION

This section details the steps for observing specimens with your microscope.

5.1. Placing a Specimen

1. Rotate the revolving nosepiece to select the lowest power objective lens (4x).
2. Place the prepared slide onto the mechanical stage, securing it with the stage clips.
3. Use the coaxial cross table knobs to position the specimen directly over the light source.

5.2. Focusing and Magnification

1. Look through the eyepieces. Adjust the interpupillary distance until you see a single, circular field of view.
2. Use the coarse focus knob to bring the specimen into approximate focus.
3. Use the fine focus knob for precise focusing.
4. Rotate the nosepiece to a higher magnification objective (10x, 40x). The microscope is parfocal, meaning minimal fine focus adjustment should be needed.
5. For the 100x objective, apply a small drop of immersion oil directly onto the specimen slide, then carefully lower the 100x objective into the oil. Use only the fine focus knob for adjustment.



Image 5.1: Close-up view of the objective lenses mounted on the revolving nosepiece, positioned above the mechanical stage with a specimen slide.

5.3. Illumination and Condenser Adjustment

1. Adjust the LED illumination brightness using the dimmer control for optimal viewing.
2. The Abbe condenser controls the angle and amount of light reaching the specimen. Adjust its height using the condenser focus knob.
3. The iris diaphragm, located within the condenser, controls the aperture of the light beam. Adjust it to enhance contrast and resolution. Generally, a smaller aperture increases contrast but reduces resolution.



Image 5.2: Detailed view of the microscope's mechanical stage, specimen holder, and the Abbe condenser with its iris diaphragm.

6. MAINTENANCE

Proper care and maintenance will ensure the longevity and optimal performance of your microscope.

- **Cleaning Optics:** Use a soft, lint-free cloth and specialized optical cleaning solution for lenses. Never use abrasive materials. For oil immersion objectives, clean off immersion oil immediately after use.
- **Cleaning Body:** Wipe the microscope body with a soft, damp cloth. Avoid using harsh chemicals or solvents.
- **Storage:** When not in use, cover the microscope with the provided dust cover and store it in a dry, dust-free environment.
- **Lubrication:** Moving parts are factory-lubricated. Do not attempt to lubricate them yourself unless specifically instructed by a qualified technician.

7. TROUBLESHOOTING

This section addresses common issues you might encounter and their potential solutions.

Problem	Possible Cause	Solution
No illumination	Power cord disconnected, bulb failure, dimmer set to minimum	Check power connection, replace LED bulb if necessary, adjust dimmer
Image is blurry/out of focus	Incorrect focus, objective not fully engaged, dirty lens	Adjust coarse and fine focus, rotate nosepiece until objective clicks into place, clean objective lens
Dark field of view	Iris diaphragm closed, condenser too low, low illumination	Open iris diaphragm, raise condenser, increase illumination brightness
Dust or spots in view	Dust on eyepiece, objective, or specimen	Clean eyepieces and objectives, check specimen for debris

8. SPECIFICATIONS

Feature	Detail
Model Number	5722100
Brand	BRESSER
Magnification Range	40x - 1000x
Eyepieces	WF 10x (23mm diameter)
Objective Lenses	4x, 10x, 40x, 100x (oil immersion) Achromatic
Illumination	LED, adjustable with dimmer
Condenser	Abbe condenser with iris diaphragm
Focusing	Coaxial coarse and fine focus
Stage	Coaxial mechanical stage with vernier scale
Head	Binocular, 360° rotatable
Material	Metal

Feature	Detail
Power Source	Corded Electric (240 Volts)
Item Weight	3.8 Kilograms (8.36 pounds)
Product Dimensions	11.02 x 6.89 x 14.17 inches

9. WARRANTY & SUPPORT

BRESSER products are manufactured to high-quality standards. For information regarding warranty coverage, technical support, or service, please refer to the warranty card included with your product or visit the official BRESSER website. Keep your purchase receipt as proof of purchase. For further assistance, you may contact BRESSER customer service directly.

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