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› Magnus Invi Inverted Microscope User Manual

Magnus Invi

Magnus Invi Inverted Microscope User Manual

Model: Invi

1. PRODUCT OVERVIEW

The Magnus Invi Inverted Microscope is designed for advanced microscopy, particularly for observing living cells or samples in culture dishes. It features infinity plan and phase optics, providing high-quality imaging for various research and laboratory applications.



Figure 1: Magnus Invi Inverted Microscope. This image shows the overall structure of the inverted microscope, including the

trinocular head, objective turret, mechanical stage, and illumination system.

Key Features:

- **Long Working Distance Optics:** Allows for observation of samples in culture vessels without interference.
- **Plan Infinity Optics:** Provides flat, clear images across the entire field of view.
- **Wide Field of View (FOV 22):** Equipped with 10x eyepieces for a broad observation area.
- **Pre-centered Phase Annulus:** Facilitates quick and accurate phase contrast setup.
- **Objective Configuration:** Includes 4x, 40x plan infinity objectives and 10x, 20x plan infinity phase objectives as standard.

2. SETUP

2.1 Unpacking and Placement

1. Carefully remove the microscope and all accessories from the packaging.
2. Place the microscope on a stable, level surface, away from direct sunlight, vibrations, and excessive dust.
3. Ensure adequate space around the microscope for operation and ventilation.

2.2 Component Assembly

1. Install the trinocular head onto the microscope body, securing it with the provided screw.
2. Insert the 10x eyepieces into the eyepiece tubes.
3. Screw the objectives (4x, 10x, 20x, 40x) into the revolving nosepiece in ascending order of magnification.
4. Connect the power cord to the microscope and then to a grounded electrical outlet (6V30W halogen illumination).



Figure 2: Close-up of the mechanical stage. This image highlights the hard-coated low drive mechanical stage, designed for precise sample manipulation.

3. OPERATING INSTRUCTIONS

3.1 Power On and Illumination

1. Turn on the main power switch.
2. Adjust the illumination intensity using the dimmer control to a comfortable level.

3.2 Sample Placement and Focusing

1. Place your sample (e.g., petri dish, culture flask) onto the hard-coated low drive mechanical stage.
2. Rotate the nosepiece to select the lowest magnification objective (e.g., 4x).

3. Use the coarse focus knob to bring the sample into approximate focus.
4. Use the fine focus knob for precise focusing.
5. Adjust the mechanical stage controls to move the sample and locate the area of interest.

3.3 Objective Selection and Phase Contrast

1. To change magnification, rotate the nosepiece to the desired objective (10x, 20x, 40x).
2. For phase contrast observation, select a phase objective (10x, 20x) and ensure the corresponding phase annulus in the condenser (N.A. 0.3 LWD condenser) is engaged. The pre-centered phase annulus simplifies this process.
3. Re-adjust fine focus as needed for each objective.

4. MAINTENANCE

4.1 Cleaning

- **Optical Components:** Use a soft, lint-free cloth and lens cleaning solution specifically designed for optics. Gently wipe lenses to remove dust and smudges. Avoid touching optical surfaces with bare hands.
- **Body and Stage:** Wipe the microscope body and stage with a soft, damp cloth. Do not use harsh chemicals or abrasive cleaners.

4.2 Storage

- When not in use, cover the microscope with a dust cover to protect it from dust and debris.
- Store the microscope in a dry, temperature-controlled environment.

5. TROUBLESHOOTING

Problem	Possible Cause	Solution
No illumination	Power cord disconnected, bulb burnt out, dimmer set to minimum.	Check power connection, replace halogen bulb (6V30W), increase dimmer setting.
Image is blurry	Incorrect focus, dirty objective/eyepiece, objective not fully engaged.	Adjust fine focus, clean optical components, rotate nosepiece until objective clicks into place.
Poor phase contrast	Incorrect phase annulus selected, annulus not centered.	Ensure correct phase annulus matches objective, verify annulus is centered.

6. SPECIFICATIONS

- **Model:** Invi
- **Head:** 30° Inclined Trinocular
- **Objectives:** 4x, 40x LWD Plan Infinity; 10x, 20x LWD Phase Infinity
- **Eyepiece:** WF 10x (FOV 22mm)
- **Stage:** Hard-coated Low Drive Mechanical Stage
- **Condenser:** N.A. 0.3 LWD Condenser

- **Illumination:** 6V30W Halogen
- **Item Weight:** 11 kg
- **Material:** Metal
- **Voltage:** 6 Volts
- **Country of Origin:** India

7. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please refer to the documentation provided with your purchase or contact Magnus customer service. Keep your purchase receipt as proof of purchase for warranty claims.