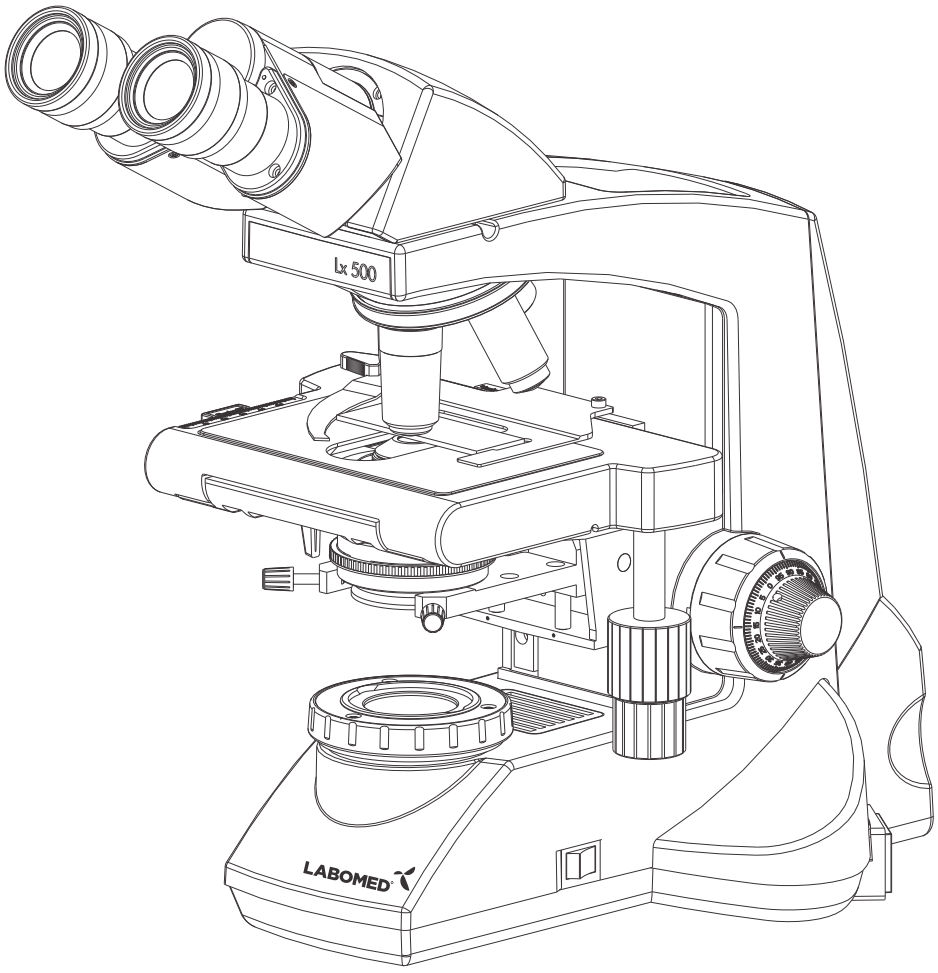
LABOMED
ideas for vision

Lx 500
Research Microscopy

User Manual



To ensure correct use of this instrument and to avoid injury during operation, read this manual completely before use.

Part No.:
9144000-795
Issue 1.6
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TABLE OF CONTENTS

1. INTRODUCTION 1

2. SAFETY INFORMATION 2-4

3. Lx 500 BINOCULAR 5

4. Lx 500 TRINOCULAR 6

5. Lx 500 ERGONOMIC 7

6. STANDARD COMPONENTS 8

7. OPTIONAL ACCESSORIES 9-10

8. INITIAL SETUP 11

9. ASSEMBLY 12-13

10. SUMMARY OF THE BRIGHTFIELD OBSERVATION PROCEDURE 14

11. DETAILED OBSERVATION PROCEDURE 15-19

12. TROUBLESHOOTING GUIDE 20-21

13. SPECIFICATIONS 22

1 INTRODUCTION

The Lx 500 is a research microscope with a modern design and the latest optical and mechanical engineering. Designed for professionals and clinicians alike, it offers many features and functions for a wide range of applications. Its main benefits are:

- The 360° rotatable binocular or trinocular body is inclined at 30° and has interpupillary distance (IPD) adjustment for extra clarity and contrast. A 0-30° tiltable ergonomic head is available to adjust the viewing height to the user's height for greater comfort.
- The stand has a ball-bearing, low-friction mechanism.
- The sturdy, modern design provides a high degree of comfort and stability.
- The high-power objectives are spring-loaded to prevent accidental damage to specimen slides.
- The reverse-angle quadruple nosepiece has a comfortable ribbed grip for easy rotation that also protects the turret system against damage. All positions are parcentered and parfocal, ensuring the highest level of accuracy.
- The ball-bearing mechanical stage provides smooth travel over a 76 x 50mm area, with spring-loaded stage clamps that hold the specimen exactly where you want it. A vernier scale with 0.1mm divisions aids measurement.
- High-power illumination is supplied by our universal power supply, which operates on any 100V-240V AC input. This ensures continuous operation even when the supply voltage fluctuates.
- The LED has an average life of 50,000 hours.
- The Lx 500 is equipped with a removable flip-top N.A. 1.25 Abbe condenser with an aspheric lens for brighter illumination, and an iris diaphragm for better resolution and contrast control.

2 SAFETY INFORMATION

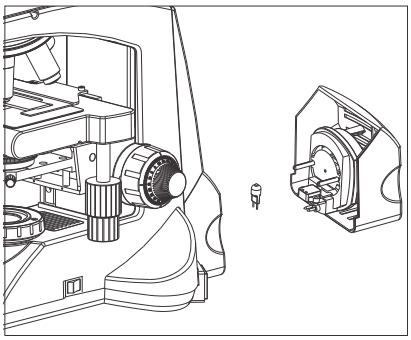


Fig. 1

1. After the microscope has been used to observe a specimen containing bacteria, clean all parts that came in contact with the specimen to prevent infection.

- Be sure to remove the specimen before moving this product.
- If the specimen is damaged by incorrect operation, clean all surfaces that may have come in contact with the specimen.

Applicable LED replacement: LED P/N 9135000-901

2. Install the microscope on a sturdy, level table or bench and do not obstruct the air vents in the base of the unit. Do not place the microscope on a flexible surface, as this could block the air vents and cause overheating.
3. Always use the power cord provided by LABOMED. If the proper power cord is not used, the safety performance of the product cannot be warranted.
4. When installing the microscope, route the power cord away from the microscope frame. If the power cord comes in contact with the base of the microscope, it could melt from overexposure to heat.
5. Always make sure that the grounding terminal of the microscope and that of the wall outlet are properly connected. If the unit is not grounded, LABOMED cannot warrant electrical safety.
6. Never allow metal objects to enter the air vents of the microscope frame, as this could result in injury to the user and damage to the microscope.
7. After using the microscope, be sure to disconnect the power cord from the connector socket of the microscope or from the wall outlet.

SAFETY SYMBOLS

The following symbols are found on the microscope. For optimal use, users should understand these symbols and always use the equipment as prescribed.

Symbol	Explanation
	This surface tends to heat up and must not be touched until the system has cooled down completely.
	Before use, read the instruction manual carefully. Improper use could result in injury to the user and/or damage to the equipment.
	Warning: risk of electric shock.
I	Main switch is ON.
○	Main switch is OFF.

Caution

If the microscope is used in a manner not specified in this manual, the safety of the user may not be warranted, and the equipment may be damaged. Always use the equipment as described in this instruction manual.

1 GETTING STARTED

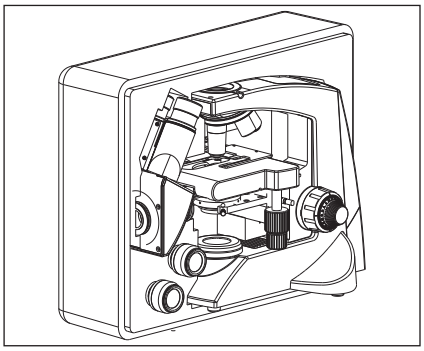


Fig. 2

1. A microscope is a precision instrument with delicate glass components. Please handle it with care.
2. Do not use the microscope where it is exposed to direct sunlight, high temperature, humidity, dust or vibration. (For the operating conditions, see chapter 13, “SPECIFICATIONS”.)
3. The microscope is cooled by natural convection. Be sure to leave enough space (10cm or more) around the body when installing the unit.
4. An arm handle is provided for carrying the microscope.

To prevent damage, do not hold the microscope by the stage or the observation tube.

Be sure to remove the specimen from the stage clip when transporting the unit, to avoid damage to the specimen slide.

2 MAINTENANCE AND STORAGE

1. Clean all glass components by wiping them gently with the cleaning cloth provided. To remove fingerprints or oil smudges, wipe with the cleaning cloth slightly moistened with a mixture of petroleum ether (85%) and isopropanol (15%).

Since solvents such as petroleum ether and isopropanol are highly flammable, they must be handled carefully. Keep these chemicals away from open flames and potential sources of electrical sparks, for example electrical equipment that is being switched “ON” or “OFF”. Always use these chemicals only in a well-ventilated room.

2. Do not use organic solvents to clean microscope components other than the glass components. To clean non-glass components, use a lint-free, soft cloth slightly moistened with a diluted neutral detergent.
3. Do not disassemble any part of the microscope, as this could result in malfunction or reduced performance.

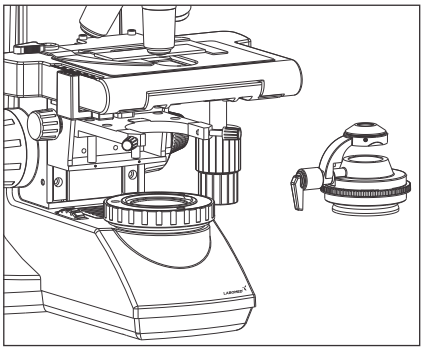


Fig. 3

4. When the microscope is not in use, make sure that the frame has cooled down fully before storing the unit in a dry cabinet or covering it with the dust cover (provided).
5. To clean the condenser, fully loosen the securing knobs and remove the condenser. Then wipe the front lens of the condenser with optical cleaning solution (the mixture suggested above) and lens tissue. To reattach the condenser, place it in its seat, tighten the securing knobs and raise the condenser bracket to the desired position.
6. Be sure to observe your local rules and regulations for product disposal.

3 CARE AND MAINTENANCE

Your microscope has been engineered for a long and safe operating life with minimal maintenance. In general, routine maintenance is limited to keeping the working parts of the microscope lubricated and the optics clean. Always cover the microscope with a dust cover when it is not in use.

Optical cleaning

1. The objectives have been adjusted for a tight fit to prevent any damage during transportation. To remove an objective, rotate it counterclockwise while gripping it with a rubber sheet or similar to avoid slipping.
2. To clean the lens surfaces, remove dust with a soft brush or gauze (compressed-air dust cans are ideal). To remove fingerprints or grease, use a soft cotton cloth or lens tissue lightly moistened with cleaning solution (85% petroleum ether and 15% isopropanol). For cleaning the optics, use methanol. Use sufficient caution when handling methanol. Place the objectives and/or eyepieces on a dust-free surface (e.g. aluminum foil). All other optical components to be cleaned should be as accessible as possible.
3. Blow all loose dust particles away with a dust blower.
4. Remove all water-soluble dirt with distilled water. If this is unsuccessful, repeat with a solution of diluted liquid hand soap. Remove any remaining residue with a dry cotton swab.
5. To remove oil, first use a solution of diluted liquid hand soap. If this does not produce a satisfactory result, repeat the cleaning with a solvent (optical cleaning solution: 85% petroleum ether and 15% isopropanol).
6. Grease must always be removed with a solvent.
7. Clean with a spiral motion from the center to the rim. Never wipe with zig-zag movements, as this will only spread the dirt. On larger optical surfaces (e.g. tube lenses), the spiral motion first goes from the rim to the middle and is then followed by a center-to-rim cleaning motion. Several spiral wipes are recommended.

We recommend pure, volatile petroleum ether or optical cleaning solution as explained above.



Zig-zag motion (X)



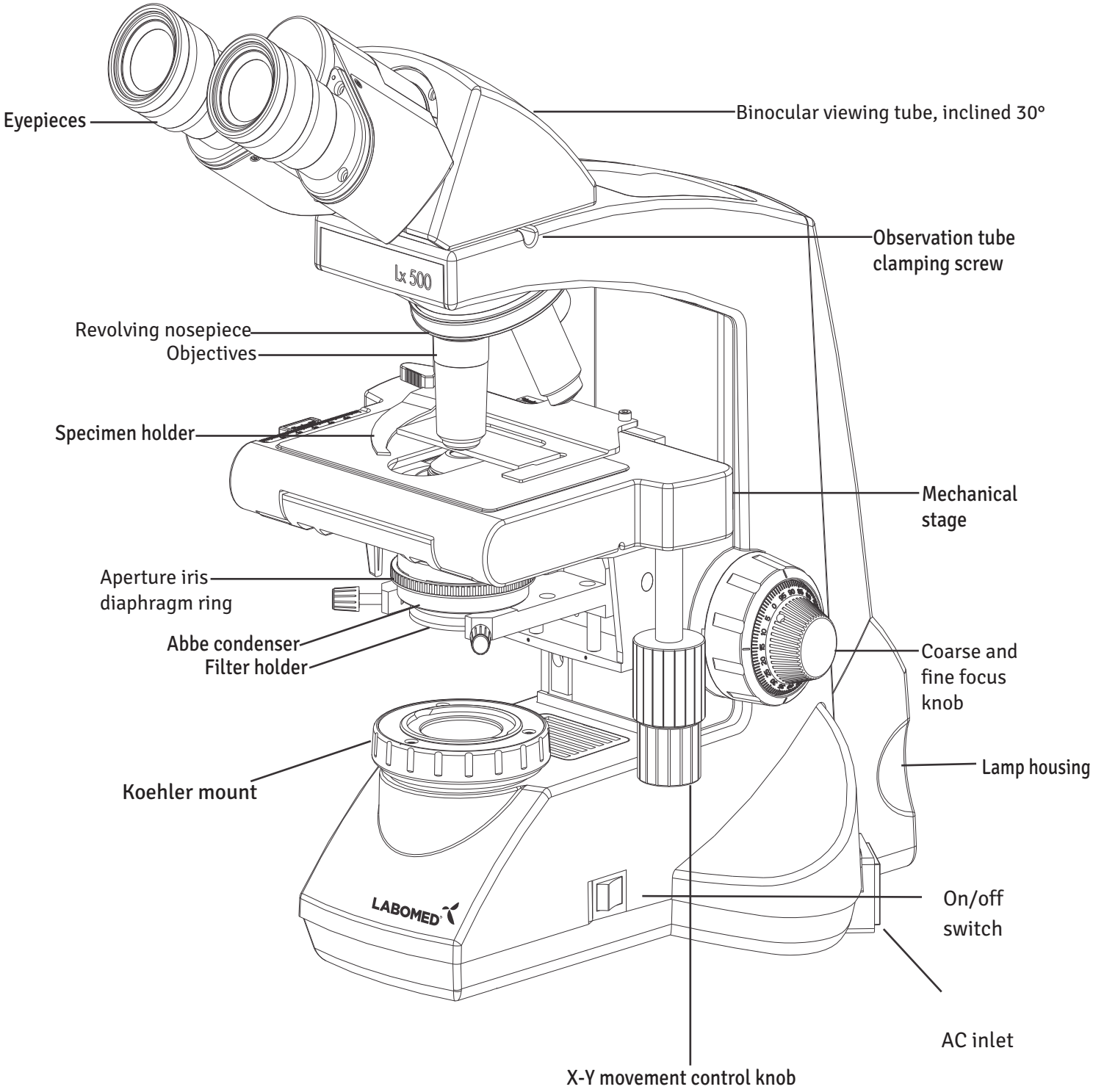
Spiral motion (✓)

Wipe with a spiral movement. Do not use a zig-zag motion!

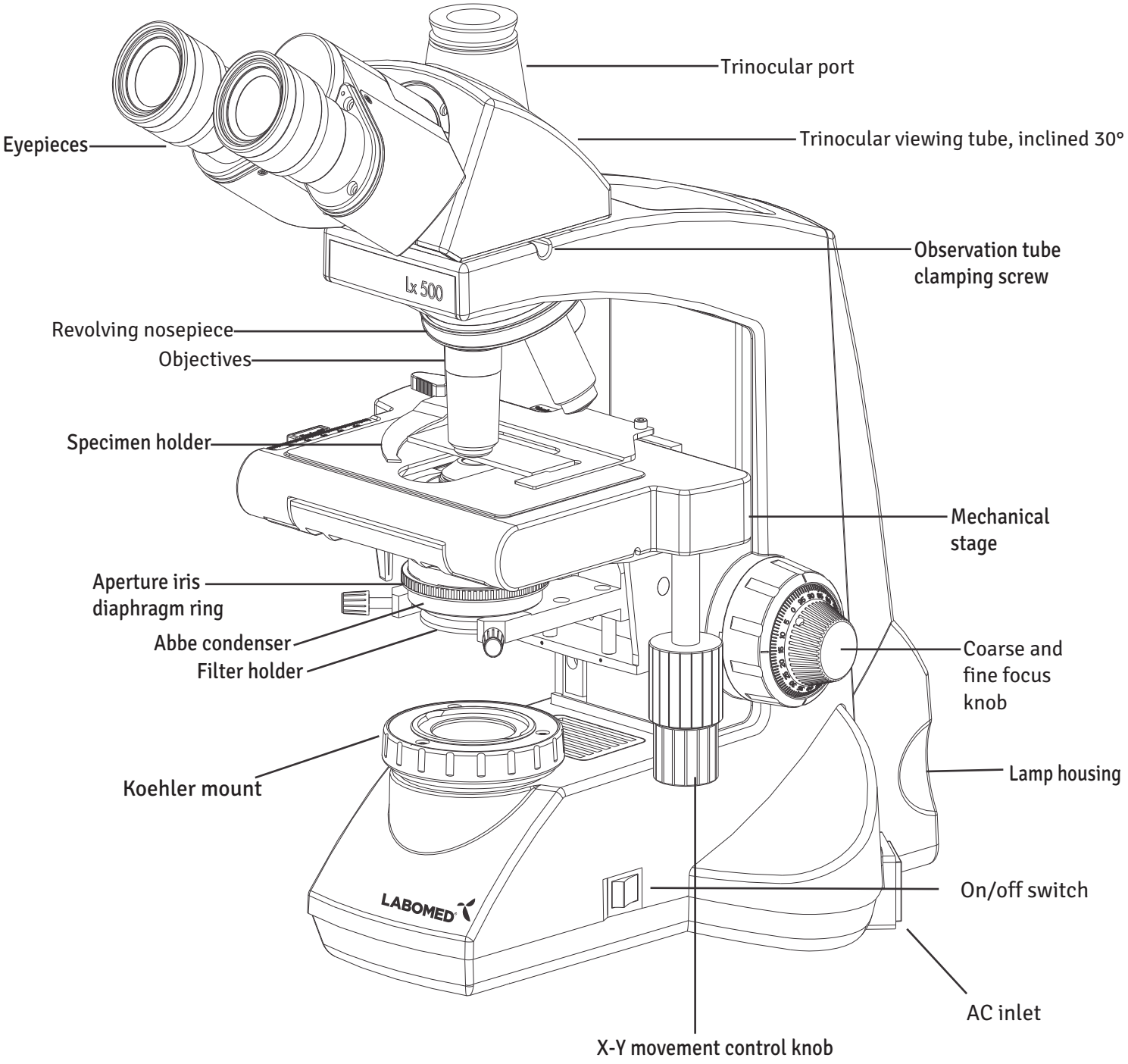
Cleaning painted surfaces

Do not use any organic solvent (e.g. thinner, xylene, ether, alcohol) to clean the painted surfaces of the instrument. Painted surfaces can be cleaned with a very lightly moistened microfiber cloth. Loose dust and other dirt particles can be removed with a soft-bristle brush.

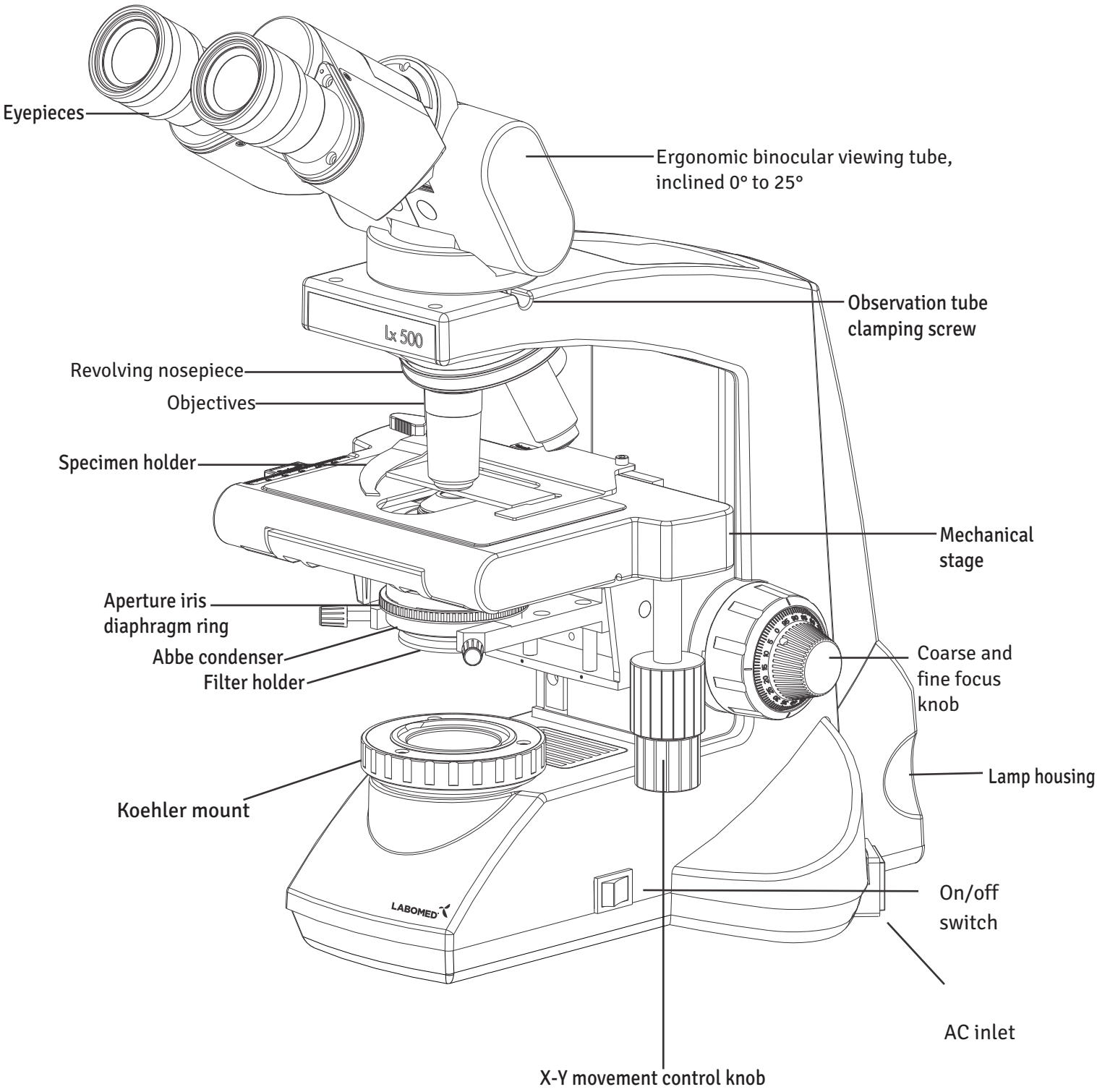
3 Lx 500 BINOCULAR



4 Lx 500 TRINOCULAR

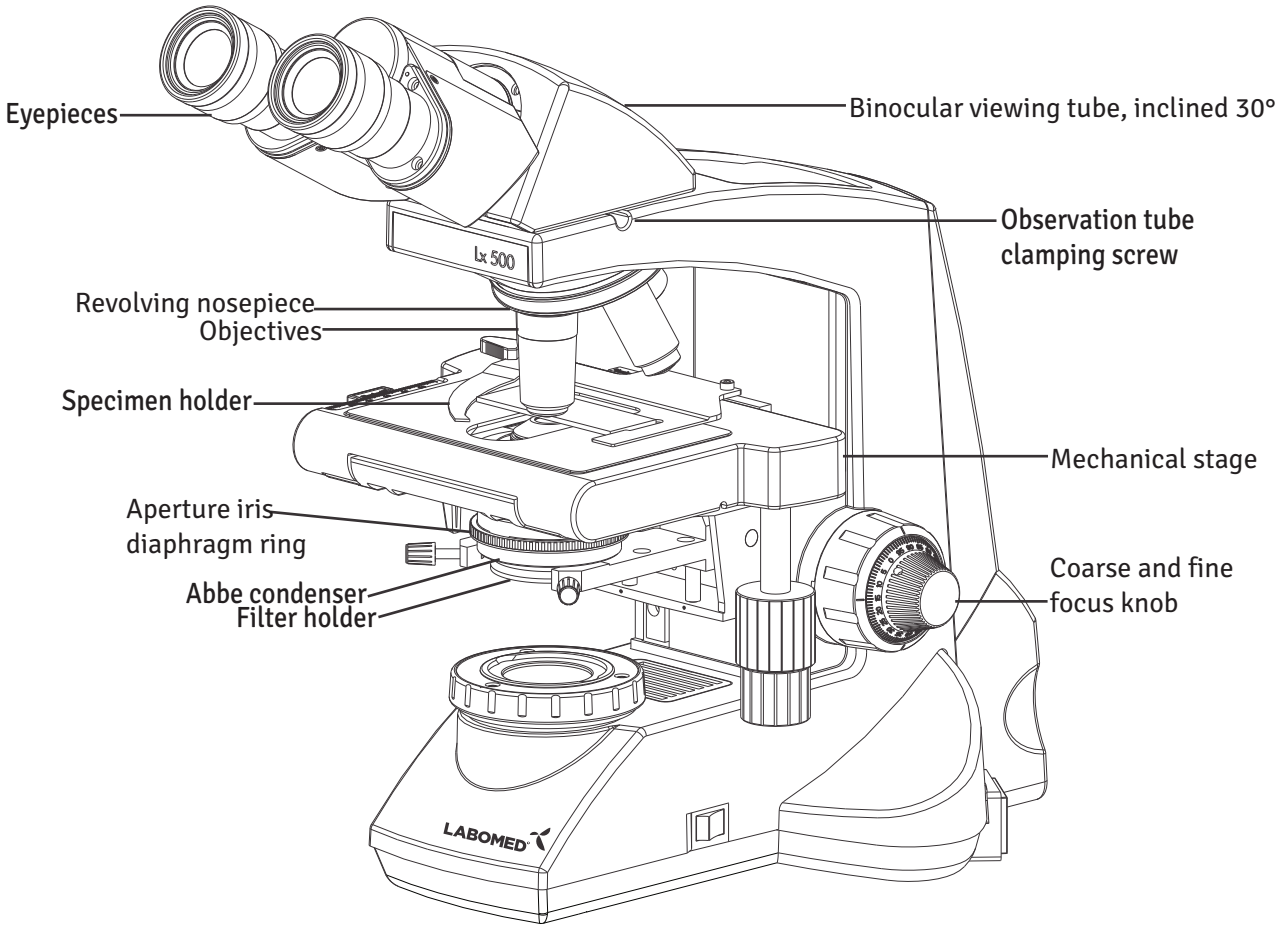


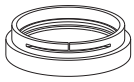
5 Lx 500 ERGONOMIC BINOCULAR



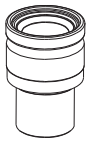
6 STANDARD COMPONENTS

After removing your microscope from its packaging, check the following contents. Please note that the contents of your microscope may vary, because the optional configuration, contrast method or viewing body you ordered may differ from the standard configuration shown here.





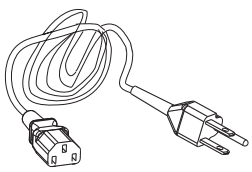
Daylight (blue) filter



Paired eyepieces



Allen wrench, 3mm



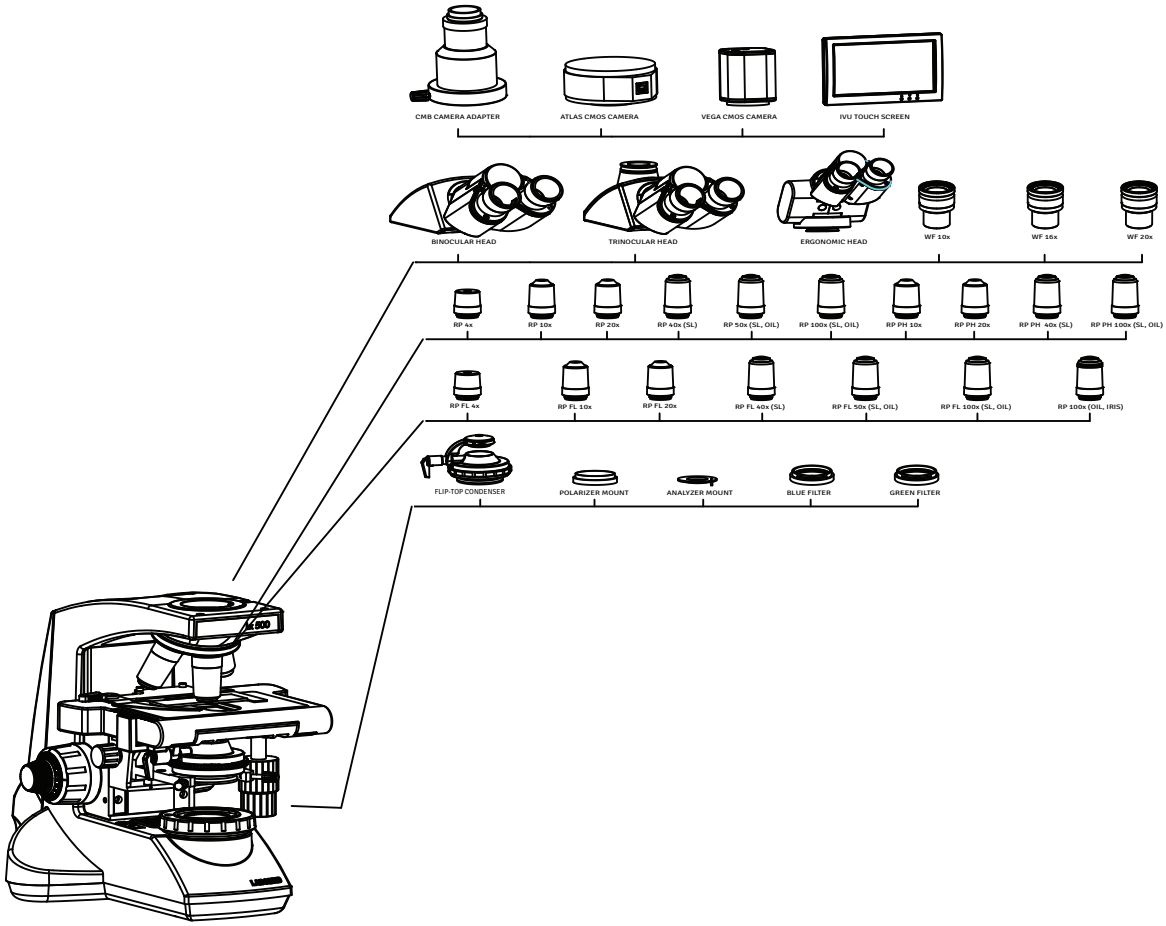
Power cord



Immersion oil

7 OPTIONAL ACCESSORIES

SYSTEM DIAGRAM OF OPTIONAL ACCESSORIES



INSTALLATION AND OPERATION OF OPTIONAL ACCESSORIES

1 CAMERA MODULE SYSTEM

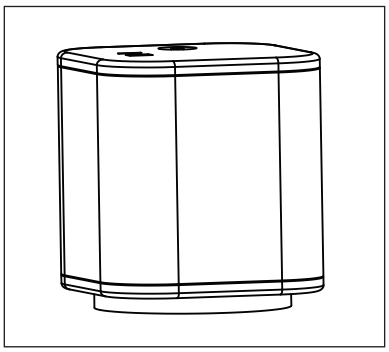


Fig. 4

1. Mount the video adapter provided on the trinocular observation head.

2. Mount the camera module system on the video adapter.

2 OPTIONAL EYEPIECES

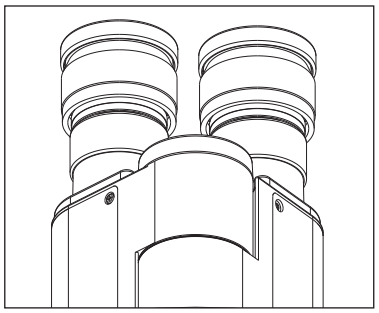


Fig. 5

10x eyepieces are provided. To replace them:

1. Pull the 10x eyepieces out of the eyepiece tubes of the observation head.

2. Insert the desired eyepieces in the empty eyepiece tubes.

3 PHASE TURRET

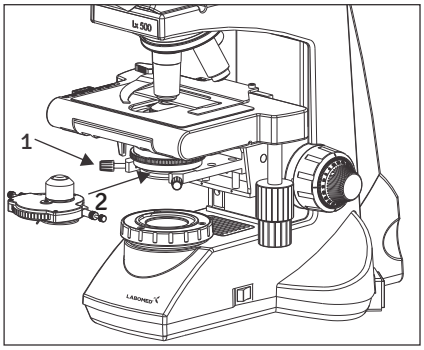


Fig. 6

1. Remove the condenser by loosening the two thumbscrews (1) on both sides of the condenser, as shown in Fig. 6.

2. Place the phase annulus turret in the position from which the condenser was removed.

3. The long “push in to engage” thumbscrews on both sides of the phase turret provide correct alignment of the phase ring. With these screws disengaged, the phase turret can be set to any phase annulus (10x, 20x, 40x and 100x) by turning the thumb wheel to the desired position. The thumb wheel also has an ‘0’ setting for bright-field use.

Note: Refer to the user manual provided with the phase contrast kit for centering and alignment.

8 INITIAL SETUP

1 OBJECTIVES

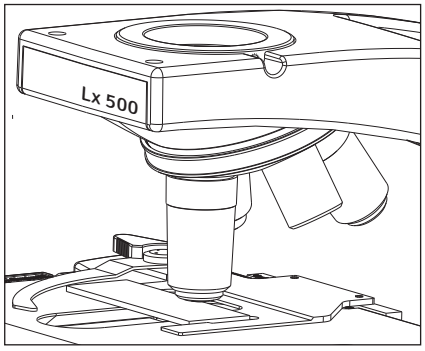


Fig. 7

The objectives are factory set. They are parcentered and parfocalized during assembly.

All objectives have been secured for a tight fit to prevent them from coming loose during transit. To remove an objective, rotate it counterclockwise while holding it with a rubber grip to avoid slipping.

2 OBSERVATION HEAD

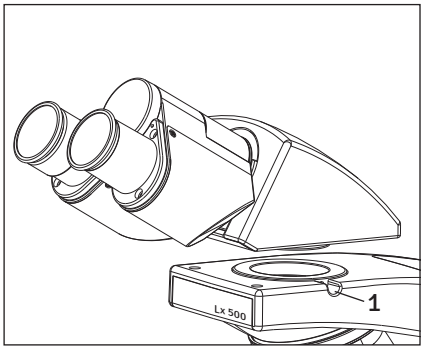


Fig. 8

Install the observation head as follows:

1. Using the 3mm Allen wrench (provided), loosen the head locking screw (1) and remove the dust caps from the dovetail cavity and from the dovetail of the observation head.

2. Mount the observation head by engaging the dovetail at the bottom of the head in the dovetail cavity of the microscope arm.

3. Position the observation head as desired, then tighten the head locking screw (1). See Fig. 8.

3 EYEPIECES

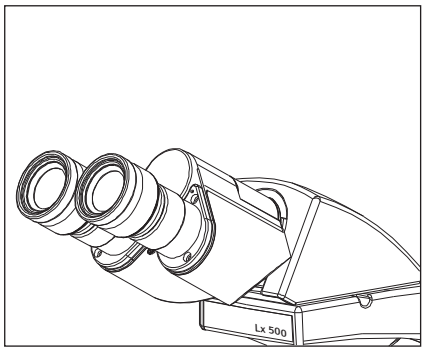


Fig. 9

Insert the eyepieces into the eyepiece tubes of the observation head as follows:

1. Remove the protective caps from the observation tube.

2. Insert the 10x eyepieces into the spring-loaded eye tubes, which prevent unwanted rotation of the eyepieces. See Fig. 9.

9 ASSEMBLY

Each standard unit is assembled simply by attaching the observation head, eyepieces and power cord.

1 FUSE REPLACEMENT

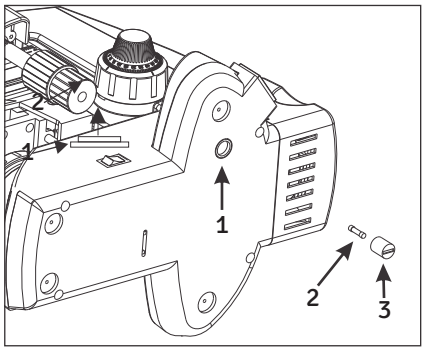


Fig. 11

Before replacing the fuse, remove any parts that may drop, such as the filter and the specimen, from the microscope frame. Turn the microscope to expose the base plate, so that the fuse holder is visible.

1. Use a flat-head screwdriver to open the fuse holder (1).
2. The fuse holder (3) comes out with the blown fuse.
3. Replace the blown fuse (2) with a working fuse.
4. Push the fuse tray back in.

Always use the designated fuse. Using a fuse other than those specified by LABOMED may lead to a fire hazard.
CAUTION: Before replacing the fuse, set the main switch to “O” (OFF) and disconnect the power cord from the wall outlet.

2 MOUNTING THE DAYLIGHT (BLUE) FILTER

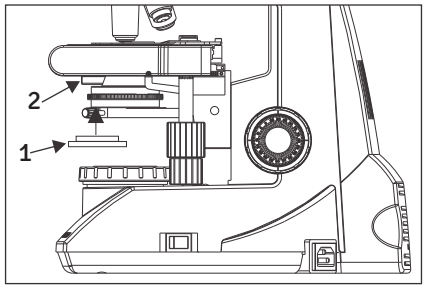


Fig. 11a

This filter changes the color of the observation light to a natural daylight color.

- Fit the filter (1) into the bottom of the condenser (2) until it clicks into place (Fig. 11a).

3 PROCEDURE FOR LED REPLACEMENT

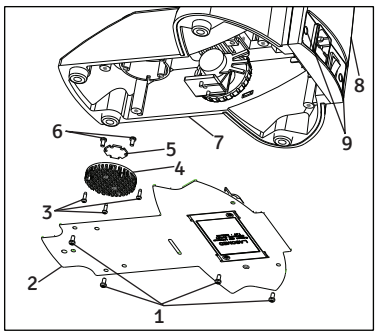


Fig. 12

1. Screws SS 658
2. Base plate 9144000-815
3. Heat shield screws SS 714
4. Heat shield 9135000-524
5. Star LED 9135000-901
6. LED screws SS 658
7. Stand
8. Back cover plate (9126000-102) and electrical panel (91260000-103)
9. Decorative cap 8123000-202

Figure 12

1. Lay the microscope on its back on a clean surface to expose the base plate.
2. Remove the two decorative caps (9) from the back cover plate.
3. Using a Phillips screwdriver, remove the two screws (9) to detach the back cover plate from the stand.
4. Using a Phillips screwdriver, remove the four screws (1) to open the bottom plate of the microscope.
5. Cut the tie holding the LED wire and detach the LED wire connector from the PCB mounted on the back cover plate.
6. Detach the heat shield from the critical mount by removing the 3 screws (3) with a Phillips screwdriver.
7. Detach the LED from the heat shield by loosening the 3 screws (6).
8. Fit the new LED on the heat shield and connect it to the PCB.
9. Reverse steps 6 to 1 to complete the process.

Applicable LED replacement: LED P/N 9135000-901

4 PROCEDURE FOR BATTERY REPLACEMENT

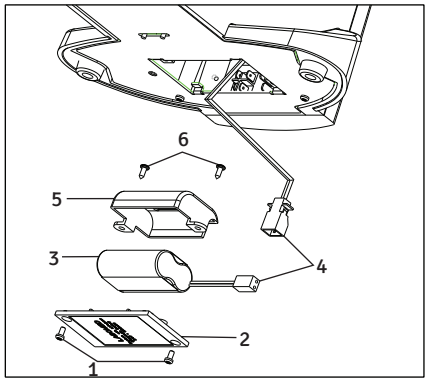


Fig. 12a

1. Screws for battery cover bottom SS 658
2. Battery cover bottom 9135100-204
3. Battery 9135000-903
4. Cable clamp EL-488
5. Battery cover, LED 9135100-201
6. Battery cover screws SS 658

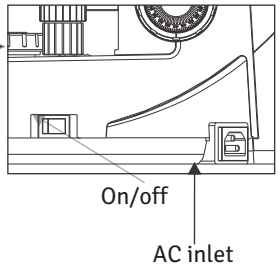
Figure 12a

1. Lay the microscope on its back on a clean surface to expose the base plate.
2. Using a Phillips screwdriver, remove the four screws (1) to open the battery cover on the bottom plate.
3. Detach the connector of the connecting wires (4).
4. Remove the two screws (6) on the battery clamp with a Phillips screwdriver.
5. Replace the existing battery with a new battery from LABOMED (see the part number below).
6. Reverse steps 5 to 1 to complete the process.

Applicable LED battery replacement: battery P/N 9135000-903

10 SUMMARY OF THE BRIGHTFIELD OBSERVATION PROCEDURE

Set the main switch to “ON”.



Place the specimen on the stage.

Engage the 10x objective in the light path.

Bring the specimen into focus.

Adjust the observation tube and eyepieces:
adjust the interpupillary distance.
Adjust the diopter setting.

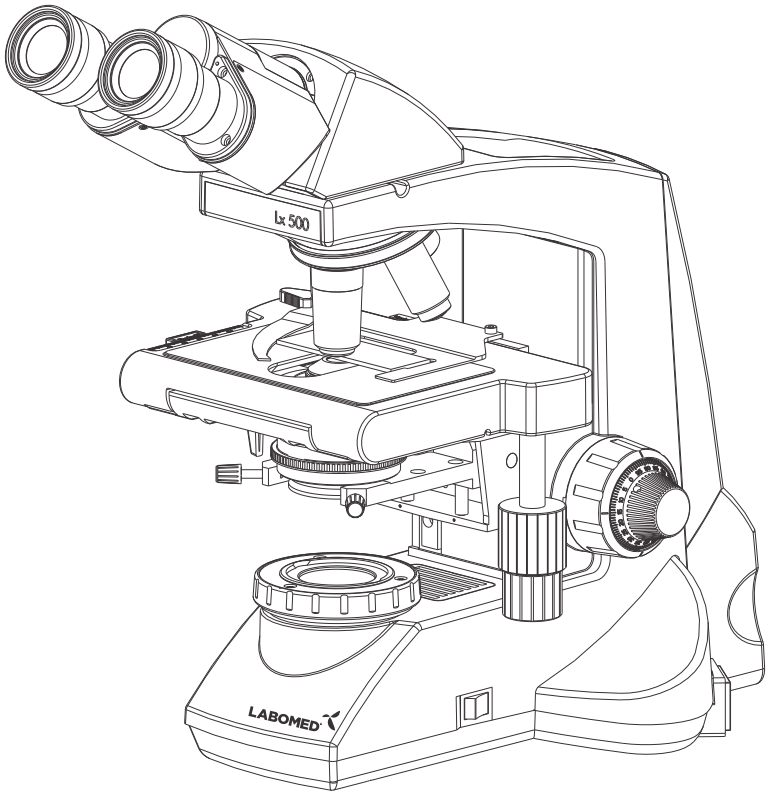
Adjust the aperture iris diaphragm.

Engage the objective to be used in the light path and bring the specimen into focus.

Adjust the brightness.

Engage the required filters.

Observe the specimen.



11 DETAILED OBSERVATION PROCEDURE

1 TURNING ON THE LAMP

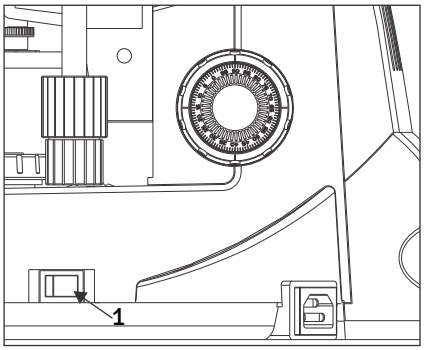


Fig. 13

1. Set the main switch to “I” (ON) as shown in Fig. 13.

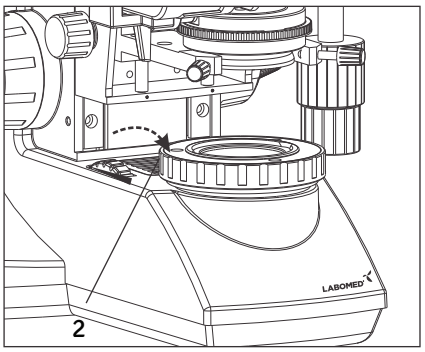


Fig. 14

2. Turning the light intensity knob (Fig. 14) in the direction of the arrow increases the brightness; turning it in the opposite direction decreases the brightness. The intensity bar next to the knob shows the direction of the intensity level.

2 PLACING THE SPECIMEN ON THE STAGE

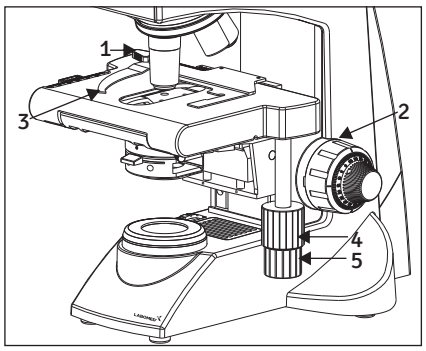


Fig. 15

1. Turn the coarse focus knob (2) counterclockwise to lower the stage fully.
2. Open the bow-shaped lever (3) outward by pulling on the lever handle (1), and place the specimen by sliding the specimen glass plate(s) onto the stage from the front toward the slide seat at the rear.
3. After positioning your specimen slides (2 max.), return the bow-shaped lever (3) gently by slowly releasing the control knob (1).
4. Turning the upper coaxial knob (4), which controls the Y-axis movement, moves the specimen in the vertical direction. Turning the lower knob (5) moves the specimen in the X-axis, or horizontal, direction.

Do not move the specimen holder directly by hand, as this will damage the rotary mechanisms.

CAUTION: When the specimen holder reaches its stop position, the X/Y knobs become stiff to turn. Stop turning at this point.

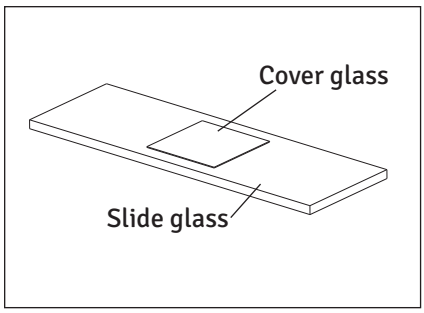


Fig. 16

Cover glass
This is the glass plate placed on the specimen. For optimum optical performance, the cover glass thickness, which is the distance from its surface to the specimen surface, should be 0.17mm.

Slide glass
This glass plate should ideally have a length of 76mm, a width of 26mm ± 1mm and a thickness between 0.9 and 1.4mm.

Vernier scales
These scales allow easy identification of the specimen position (coordinates), so that you can easily return to a particular region of interest after scanning the slide (Fig. 17).

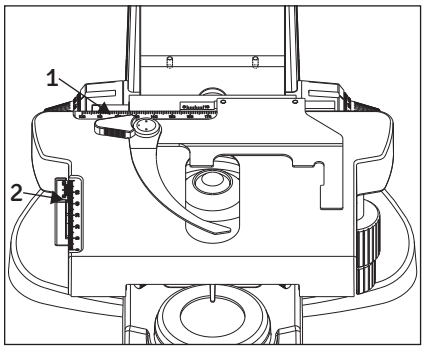


Fig. 17

1. The horizontal coordinate can be read at position (1) on the specimen holder.
2. The vertical coordinate can be read at the index line (2).

3 ADJUSTING THE FOCUS

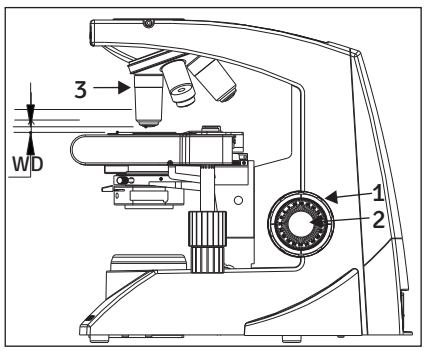


Fig. 18

Focusing procedure
1. Turn the coarse focus knob (1) clockwise so that the objective (3) is as close as possible to the specimen (we recommend starting with the 10x objective).
2. While observing the specimen through the eyepieces, slowly turn the coarse focus knob (1) counterclockwise to lower the stage.
3. When the specimen is coarsely focused (an image is visible), turn the fine focus knob (2) to focus the fine detail.

Working distance (WD)

The WD is the distance between the objective and the specimen when the specimen is in sharp focus.

Objective magnification	4X	10X	40X	100X
WD (mm)	30.5	4.82	0.55	0.11

4 ADJUSTING THE INTERPUPILLARY DISTANCE (IPD)

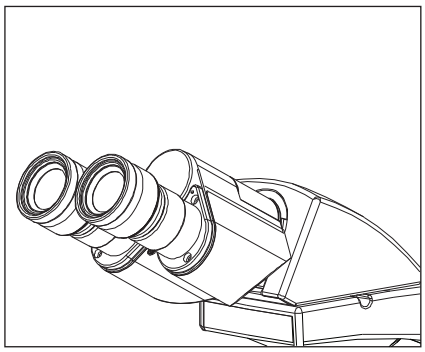


Fig. 19

Interpupillary distance adjustment aligns the two eyepieces with the pupils of both eyes, so that you observe a single microscope image through the two eyepieces in stereo vision. This greatly helps to reduce fatigue and discomfort during observation.
While looking through the eyepieces, move both eye tubes sideways until the left and right fields of view coincide completely. The IPD scale is printed on the circular disc between the two eye tubes. The position of the index dot (•) indicates the interpupillary distance.
Note your interpupillary distance so that you can quickly set it again in the future. This is useful when several users work with the microscope.

5 ADJUSTING THE DIOPTER

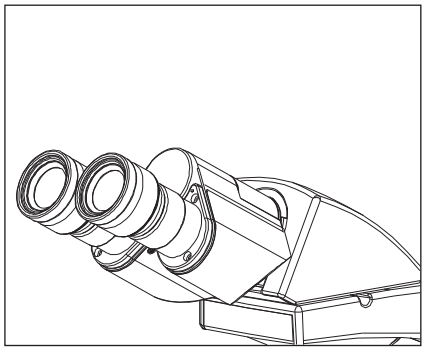


Fig. 20

Procedure for adjusting the diopter:

1. Turn the right eyepiece to match the marking of your IPD (if your IPD is 64, turn the eyepiece to the 0 mark).
2. While looking through the right eyepiece with your right eye, turn the coarse and fine focus knobs to bring the specimen into focus.
3. While looking through the left eyepiece with your left eye, turn only the diopter adjustment ring on the eyepiece until the specimen is in the best possible focus.

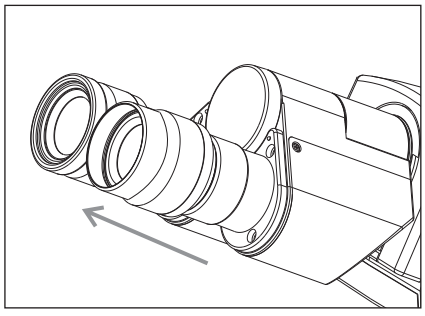


Fig. 21

Using the eye guards

When wearing eyeglasses
Use the eye guards in the normal, folded-down position. This prevents the eyeglasses from being scratched.

When not wearing eyeglasses
Extend the folded eye guards outward (direction of the arrow) to keep ambient light out of your line of vision.

6 CENTERING THE CONDENSER

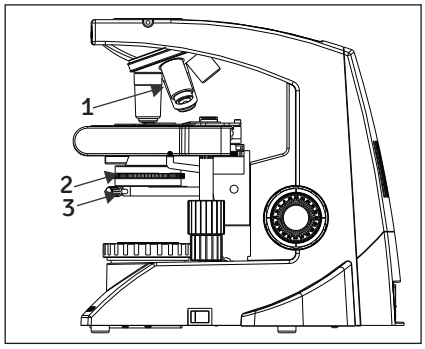
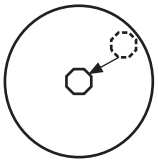


Fig. 22



The condenser may have become decentered during shipping. It is mandatory to check the centering before observing a specimen, because a centered condenser is required to light the specimen evenly.

For models with Koehler illumination:

1. Bring the 10x objective (1) into the working position.
2. Move the condenser to its highest point.
3. Close the Koehler diaphragm (2). Focus the light spot as shown in the illustration below.
4. Use the centering screws (3) on the left and right sides of the condenser bracket to bring the light spot to the center of the field of view.

7 ADJUSTING THE CONDENSER POSITION AND APERTURE IRIS DIAPHRAGM

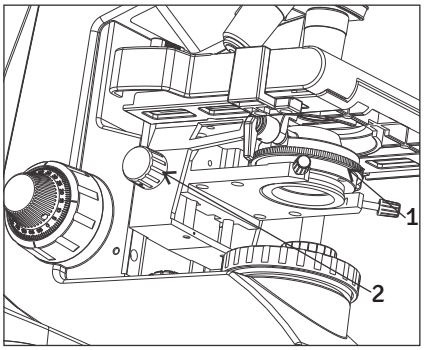


Fig. 23

The condenser is most often used in its highest position. If the observed field of view is not bright enough, brightness may be improved by lowering the condenser slightly.

1. Turn the condenser height adjustment knob (2) to move the condenser to the highest or desired position.
2. The aperture iris diaphragm ring (1) has an objective magnification scale (4x, 10x, 40x, 100x). Turn the ring so that the magnification of the objective in use is clearly visible.

8 SWITCHING THE OBJECTIVES

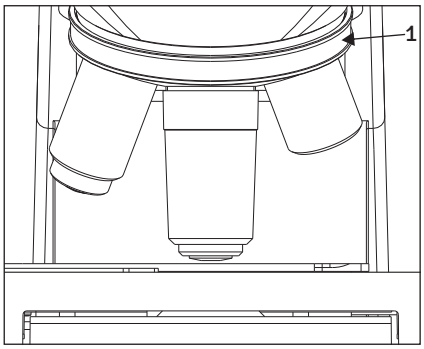


Fig. 24

Rotate the revolving nosepiece (1) so that the objective to be used is in line above the specimen. Always use the ribbed grip (1) to rotate the nosepiece.

9 USING THE 100X IMMERSION OBJECTIVE

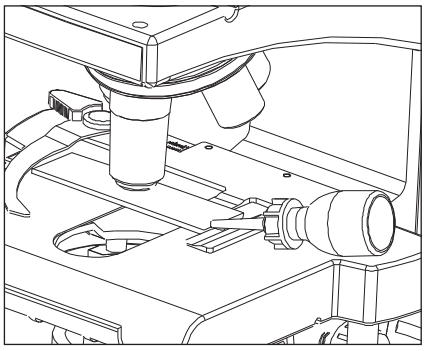


Fig. 25

The designated immersion oil must be in contact with the front lens of the 100x immersion objective; otherwise the specimen will appear distorted and dull. We recommend always using LABOMED immersion oil.

Immersion procedure:

1. Bring the specimen into focus, first with the 10x and then with the 40x objective.

2. Move the 40x objective out of the light path, turning toward the 100x, and place a drop of immersion oil on the center of the specimen.

3. Rotate the revolving nosepiece to engage the immersion objective and turn the fine focus knob to bring the specimen into focus.

Caution:
Air bubbles in the oil affect the image quality, so make sure that the oil is free of bubbles. To remove bubbles, rotate the revolving nosepiece slightly to agitate the oil.

4. The condenser of this microscope delivers its full performance when oil is placed between the slide glass and the front lens of the condenser. If no oil is placed there, the observed image may appear dark.

5. After use, remove the oil from the front lens of the objective by wiping with lens tissue slightly moistened with a mixture of ether (70%) and alcohol (30%).

Caution:
If immersion oil gets into your eyes, rinse them thoroughly with fresh water. If immersion oil gets on your skin, wash the affected areas with soap and water. If discomfort persists, consult your physician immediately.

12 TROUBLESHOOTING GUIDE

Under certain conditions, the performance of the unit may be adversely affected by factors other than defects. If problems occur, review the following list and take corrective action as needed. If the problem persists, contact LABOMED or your local LABOMED dealer.

OBSERVATION	CAUSE	REMEDY
1. Uneven brightness in the field of view	The objective is not engaged in the light path	Engage the objective in position until the nosepiece clicks
	The condenser is too low	Raise it to obtain more light (p. 18)
	The objective, eyepieces, condenser and/or window lens are dirty	Clean them thoroughly as described in “Optical cleaning” (p. 4)
2. Dust or stains are visible in the field of view	The eyepieces, condenser, window lens and/or specimen glass are dirty	Clean the glass parts thoroughly with lens tissue and cleaning solution as described in “Optical cleaning” (p. 4)
3. Glare is visible in the field of view	The condenser is too low The condenser iris diaphragm ring is closed	Raise the condenser Adjust the aperture according to the objective magnification (p. 18)
4. The image is hazy or unclear	The objective is not engaged in the light path	Engage the objective in position until it clicks (p. 18)
	The objective, eyepieces, condenser and/or specimen glass are dirty	Clean the glass parts thoroughly with lens tissue and a cleaning cloth
	Immersion oil is not used with an immersion objective	Use immersion oil as described (p. 19)
	Bubbles in the immersion oil	Remove the bubbles by agitation (p. 19)
	The specified immersion oil is not used	Use the immersion oil supplied by LABOMED
5. Part of the image is out of focus	The objective is not engaged in the light path	Engage the objective in position until the nosepiece clicks
	The specimen is not set properly on the stage	Set the specimen correctly on the stage and secure it with the specimen holder (p. 15)
6. The coarse focus knob cannot lower the stage far enough	The condenser is too low	Raise the condenser
7. The fields of view of the two eyepieces do not match	The interpupillary distance is not adjusted properly Diopter compensation for the two eyes is not set The left and right eyepieces have different magnifications	Adjust the IPD to the appropriate setting (p. 17) Adjust the diopter settings (p. 17) Make sure that both eyepieces have the same magnification. LABOMED does not recommend using third-party eyepieces together with LABOMED microscopes.

OBSERVATION	CAUSE	REMEDY
8. The objective hits the specimen when switching to a higher-magnification objective	The specimen slide is upside down	Set the specimen correctly with the cover glass facing upwards
	The cover glass is too thick	Use a cover glass 0.17mm thick
	The stage is raised too high	Lower the stage
	The slide has slipped from the slide holder	Reposition the slide in the slide holder
	The slide is too thick	Use slides 0.9 to 1.4mm thick
9. The LED does not turn on	The LED is not mounted	Fit an LED
	The LED has failed	Replace the LED
	The power cord is unplugged	Plug the power cord securely into the microscope and the wall outlet
	The fuse has blown	Replace with a working fuse
	The battery is low	Charge the battery
10. The LED fails frequently	The specified LED is not used	Replace with the specified LED

13 SPECIFICATIONS

1. Illumination	Built-in illumination system, LED			
2. Focusing mechanism	Stage height adjustment mechanism Fine adjustment scale: 0.003mm per graduation Fine adjustment stroke: 0.3mm per turn Total stroke: 12.7mm Coaxial coarse and fine focusing on ball drive			
3. Revolving nosepiece	Quadruple, fixed positions (reverse angle)			
4. Observation tube		Binocular	Trinocular	Ergonomic
	Field number	22 (standard)	22 (standard)	22 (standard)
	Tube tilting angle	30°	30°	0° - 25°
	Interpupillary distance adjustment range	48-75	48-75	48-75
5. Stage	**Size**	200 x 160mm (with mechanical stage)		
	Movement range	**76 x 50mm**		
	Specimen holder	Double specimen holder		
6. Condenser	**Type**	Flip-top Abbe condenser (daylight filter detachable)		
	N.A.	**1.25**		
	Aperture iris diaphragm	**Built-in**		
7. Dimensions and weight	301.0mm (L) x 227.0mm (W) x 420.mm (H); 9 kg net			
8. Electrical	LED	1 W		
	LED life	50,000 hours		
9. Operating environment	Indoor use Altitude: max. 2000 meters Ambient temperature: 5° to 40°C (41° to 104°F) Maximum relative humidity: 80% for temperatures up to 31°C (88°F), decreasing linearly through 70% at 34°C (93°F) to 50% relative humidity at 40°C (104°F) Supply voltage fluctuations: not to exceed ±10% of the nominal voltage Pollution degree: 2 (in accordance with IEC 60664) Installation/overvoltage category: II (in accordance with IEC 60664)			

Revision History

Rev. No.	Date of Release	DCR #	Change	App. By
1.6	April 14, 2022	DCR/06/22	Reviewed and updated for typo errors	S.Bal

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