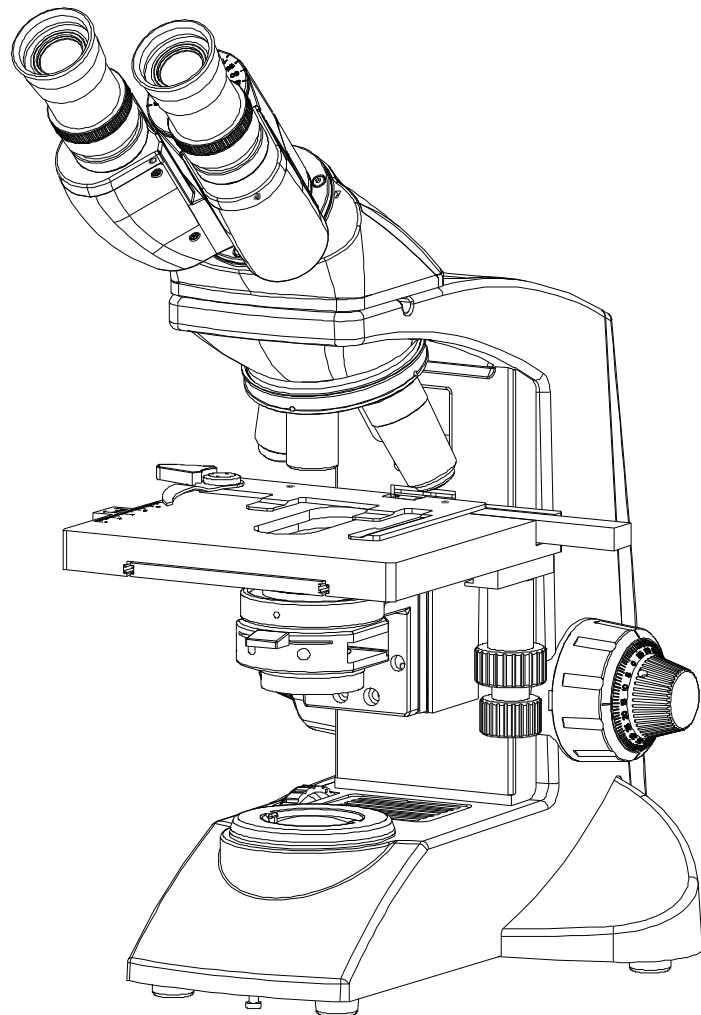


Lx 300 Clinical Microscopy

User Manual



To ensure proper use of this instrument as well as to avoid injury while operating Instrument, understanding this manual completely before use is highly recommended.

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The Lx 300 is a clinical microscope reflecting a modern design as well as the latest in optical and mechanical advancements. Designed for professionals as well as clinicians, this microscope offers many features and functions with excellent ergonomics for a fatigue free usage. Here are a few points highlighting the benefits of the Lx 300:

- Extra clarity and contrast is provided through a 360° rotatable Binocular body inclined at 45° with IPD and height adjustments.
- The pressure die cast stand consists of ball bearing, frictionless sideways focusing to avoid any loss in motion.
- All painted surfaces are with anti-microbial properties.
- The sturdy new stylish design provides a high degree of comfort as well as stability.
- The high powered objectives are spring loaded to prevent accidental damage to specimen slides.
- The quadruple nosepiece has a comfortable ribbed grip for easy rotation that also safeguards the turret system against any damage. All positions are par-centered and par-ensuring the highest level of accuracy.
- The ball bearing mechanical stage allows smooth travel over a 75 x 40mm area with spring loaded stage clamps for retaining the specimen at the exact position desired. A 0.1mm verier scale provides accurate location of specimen area.
- High power illumination is delivered through our well crafted Universal Power Supply and operates with any 100V-240V AC input. The LED configuration is operational with an in-built rechargeable battery P/N 9135000-902, Which when plugged in, draws power from a Universal Power Supply operating at 100V-240 AC input. This ensures continuous operation even under fluctuation voltages.
- Our LED has an average life span of upto 50,000 hours.
- The Lx 300 comes equipped with a removable N.A. 1.25 Abbe condenser with aspheric lens for brighter illumination levels, and an iris diaphragm for better resolution and contrast control.

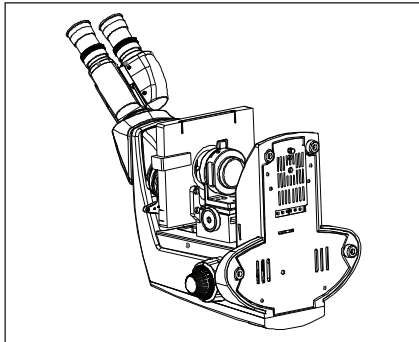


Fig. 1

1. After the microscope has been used for observation of a specimen containing bacteria, clean all parts coming in contact with the specimen to prevent infection.
 - Be sure to remove the specimen before moving this product.
 - In case the specimen is damaged by erroneous operation, it is important to clean all surfaces that may have come in contact with the specimen.
2. To avoid potential electrical hazards while replacing either LED, turn the microscope main switch to the OFF position and disconnect power cord from wall outlet in advance. Whenever you replace your microscope LED, allow lamp socket and LED to cool before touching (Fig.1)

Applicable LED replacement: LED P/N 9135000-901

3. Install microscope on a sturdy, level table or bench and avoid any restriction of air vents in the base of the unit.
Do not place microscope on a flexible surface, as this could result in blocking the air vents and cause Overheating.
4. Always use the power cord provided by LABOMED. If the proper power cord is not used, product safety performance cannot be warranted.
5. When installing the microscope, route the power cord away from the microscope frame. Should the power cord come in contact with the microscopes base, the power cord could melt due to overexposure to heat.
6. Always ensure that the grounding terminal of the microscope and that of the wall outlet are properly connected. If the unit is not grounded, LABOMED can not warrant electrical safety.
7. Never allow metallic objects to penetrate the air vents of the microscope frame as this could result in user injury and damage to the microscope.
8. After operation of microscope, be sure to disconnect power cord from connector socket of the microscope or from the wall power outlet.

SAFETY SYMBOLS

The following symbols are found on the microscope. For optimal use, it is recommended that users Understand these symbols and always use the equipment as prescribed.

Symbol	Explanation
	This surface has a tendency to heat up and should not be touched unless System has completely cooled down.
	Before use, carefully read the instruction manual. Improper use could result in Injury to the user and/or damage to the equipment.
	Warning against risk of electric shock.
	Main switch is ON.
○	Main switch is OFF

Caution

If the microscope is used in a manner not specified by this manual, the safety of the user may not be warranted. In addition, the equipment may also suffer damage. Always use the equipment as outlined in this instruction manual.

1 GETTING STARTED

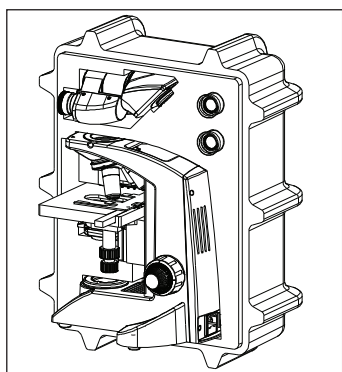


Fig. 2

1. A microscope is a precision instrument with delicate glass components. Please handle with care.
2. Do not use the microscope where it is subjected to direct sunlight, high temperature, humidity, dust and vibrations. (For the operating conditions, see chapter 13. "SPECIFICATIONS")
3. The microscope is ventilated by natural convection. Be sure to leave enough space (10cm or more) around body when installing the unit.
4. Arm handle is provided for carrying the microscope.
To prevent damage, do not hold the microscope by the stage or observation tube.
Be sure to remove the specimen from the stage clip while transporting unit to avoid damage of the specimen slide.

2 MAINTENANCE AND STORAGE

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

Since solvents such as petroleum and isopropanol are highly flammable, they must be handled carefully. Be sure to keep these chemicals away from open flames or potential Sources of electrical sparks - For Example, electrical equipment that is being switched "ON" or "OFF". Also remember to always use these chemicals only in a well-ventilated room.

2. Do not attempt to use organic solvents to clean the 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 mitigated performance.

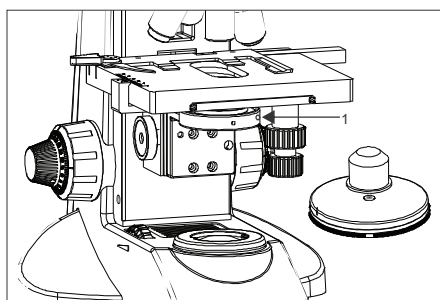


Fig. 3

4. When not using the microscope, ensure that the frame is fully cooled before storing the unit in a dry locker or covering with a dust cover (provided).
5. To clean the condenser/phase turret, fully loosen the Securing thumb screw (1) and remove the condenser then, wipe the front lens of the condenser with optical cleaning solution (mixture suggested above) and lens tissue.
 The condenser can be re-attached by replacing the condenser in its seat, tightening securing thumb screw, and raising condenser bracket to desired position.
6. Be sure to observe your local rules/regulation for product disposal.

3 CARE & MAINTENANCE

Your microscope had been engineered for a long and safe operational life with the least amount of maintenance required. In general, routine maintenance is limited to keeping the microscope working parts lubricated and optics clean. Always cover the microscope with the provided dust cover when not in use.

Optical Cleaning

1. The objective 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, etc. to avoid any slip page.
2. To clean the lens surfaces, remove dust using a soft brush or gauze (compressed air dust cans are ideal). For removing finger marks or grease, soft cotton cloth or lens tissue lightly moistened with cleaning solution (85% petroleum ether and 15% isopeopanol) should be used. For cleaning the optics, use Methanol. Observe sufficient caution in handling Methanol. Place the Objective and/ or Eyepieces on a dust free surfaces (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 using a solution of diluted hand soap liquid. Remove any remaining residue with a dry cotton swab.
5. To remove oil, use a solution of diluted hand-soap liquid initially. If this does not produce a satisfactory result, repeat the cleaning using a solvent (Optical Cleaning Solution 85% petroleum ether and 15% isopropanol).
6. Grease must always be removed using a solvent.
7. Cleaning is achieved by using a spiral motion from the center to the rim. Never wipe using zig-zag movements as this will only spread the dirt. With larger optical surfaces (e.g. tube lenses) the spiral motion starts initially at the rim before to the middle and is only then followed by a center to rim cleaning motion. Normally several spiral wipes are recommended.

We recommend pure, volatile petroleum ether or Optical Cleaning Solution as explained in point 3 above.



Zig-zag motion (X)

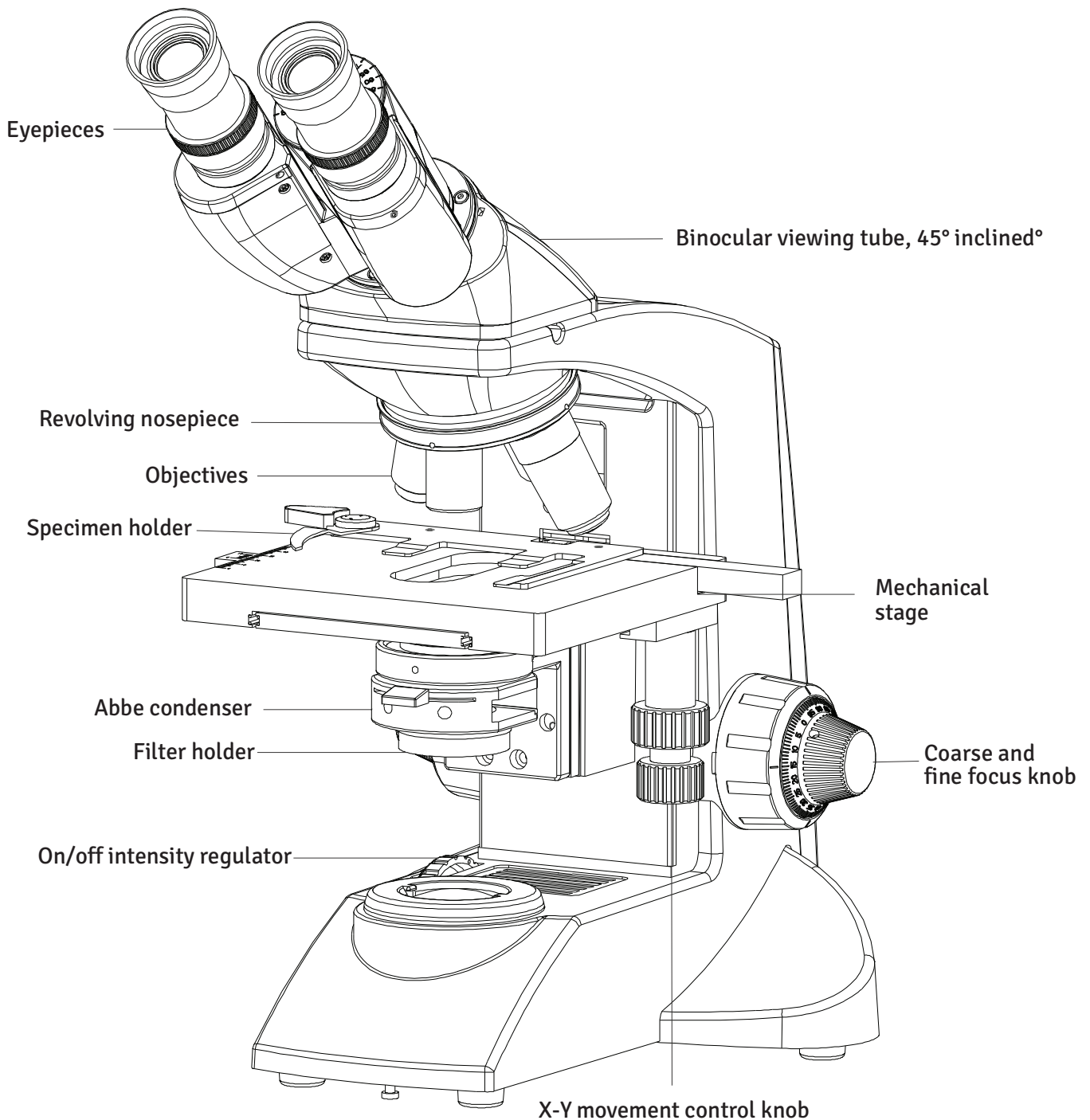


Spiral motion (✓)

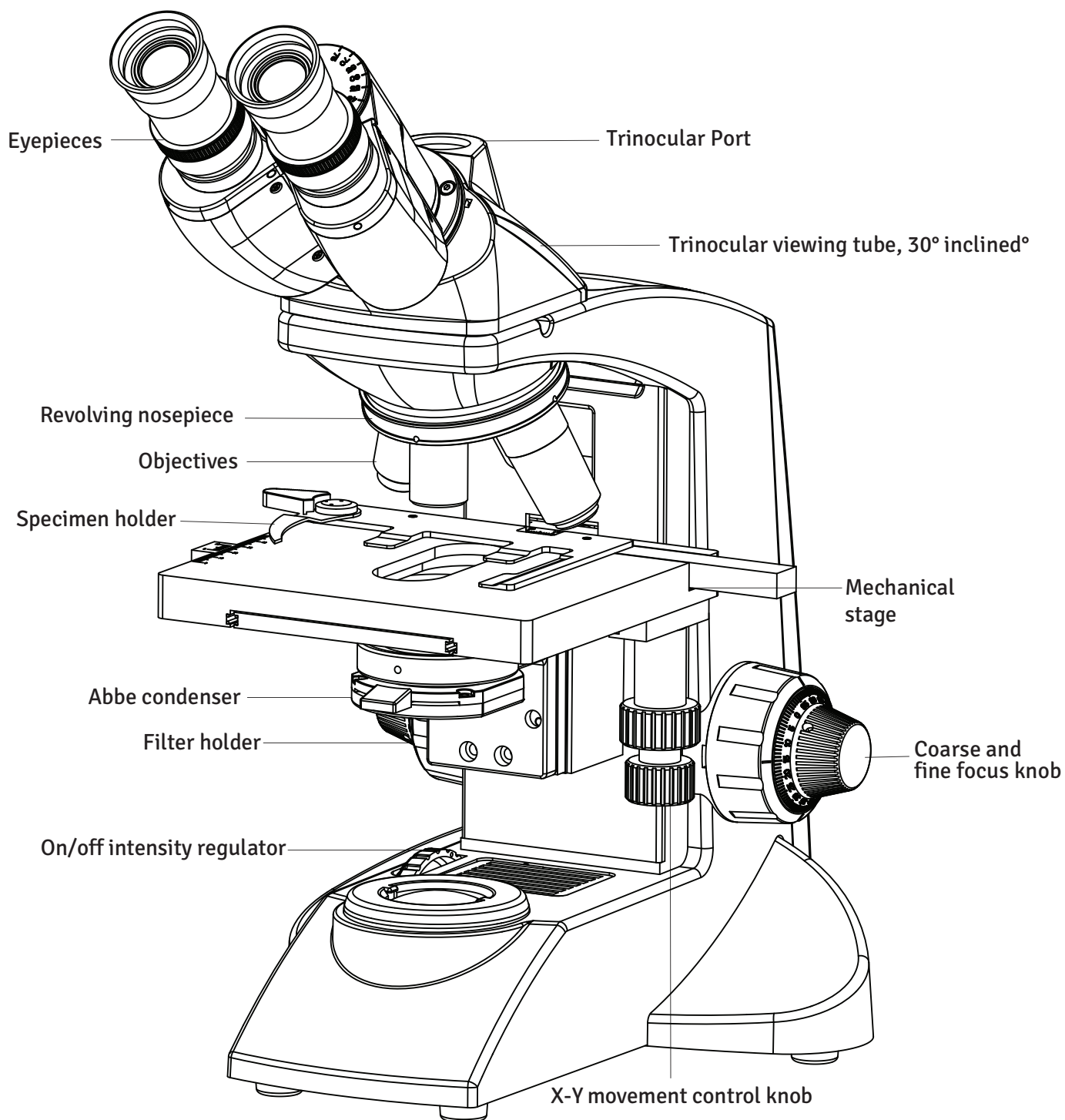
Wipe using a spiral movement. Do not use a zig-zag motion!

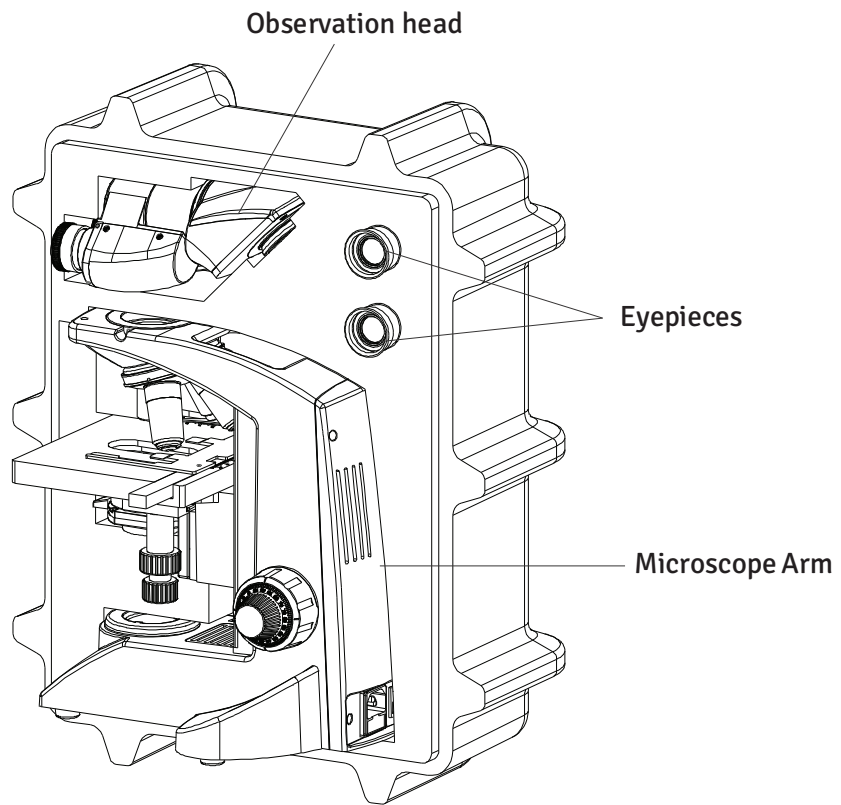
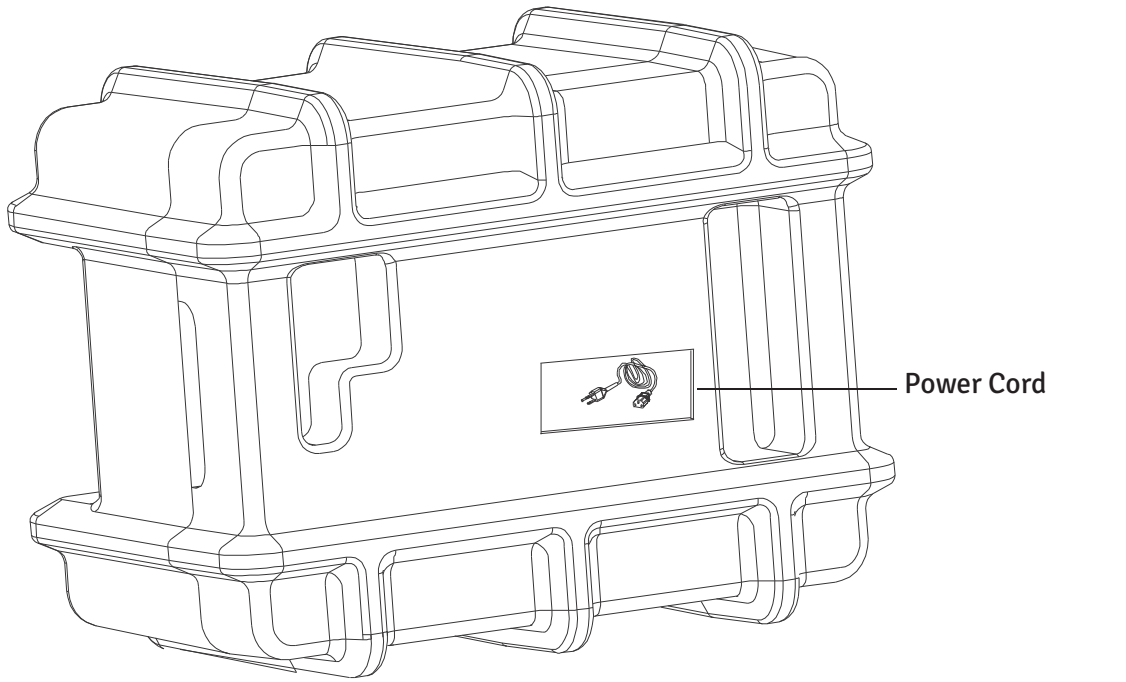
Cleaning of painted surfaces

Avoid the use of any organic solvent (e.g. thinner, xylene, ether, alcohol etc.) for cleaning of painted surfaces of the instrument. Painted surfaces can be cleaned with a very lightly moistened micro fiber cloth. Loose dust and dirt can be removed using a brush of soft hair used exclusively for this purpose.

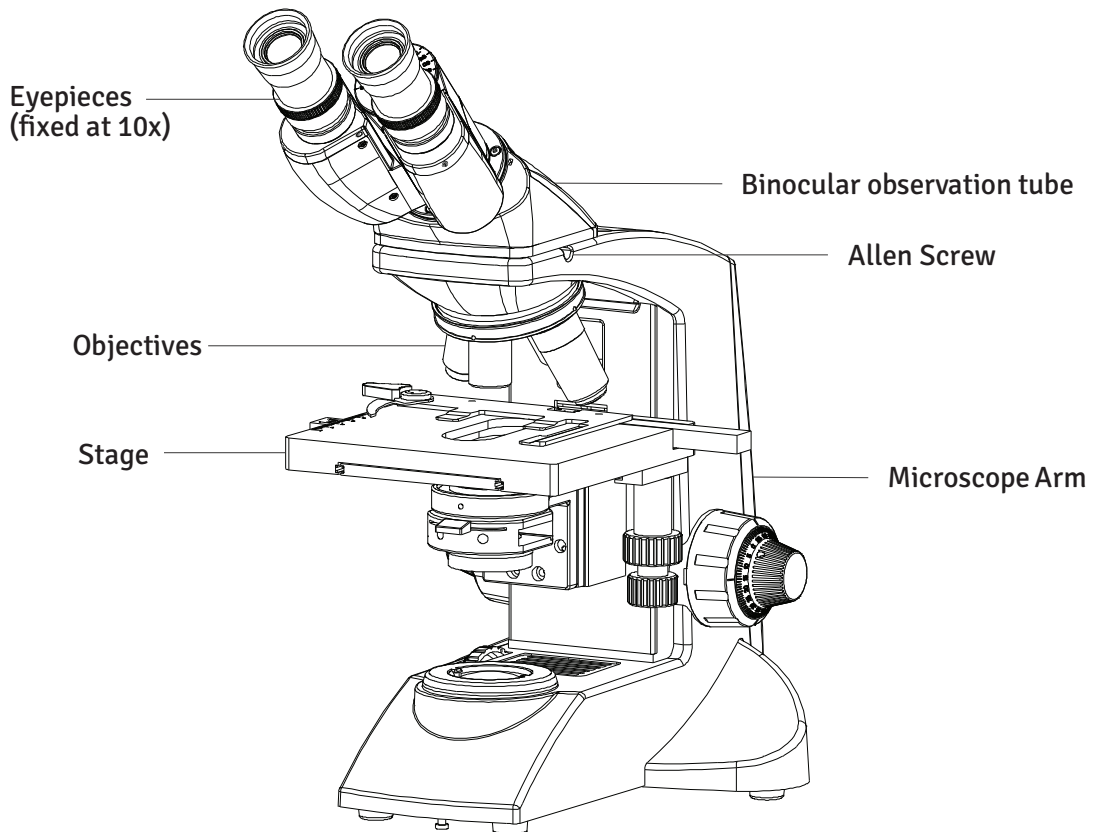


4 Lx 300 TRINOCULAR

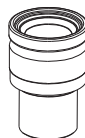




After removing your microscope from its packaging, make sure that all of the following contents are present. "Please note that the contents of your microscope may vary as the optional configuration, contrasting method or viewing body opted for may not be of the standard configuration highlighted here".



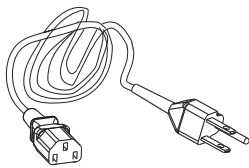
Daylight (blue) filter



Paired Eyepieces



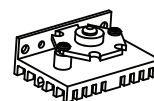
Allen Wrench 3mm



Power Cord

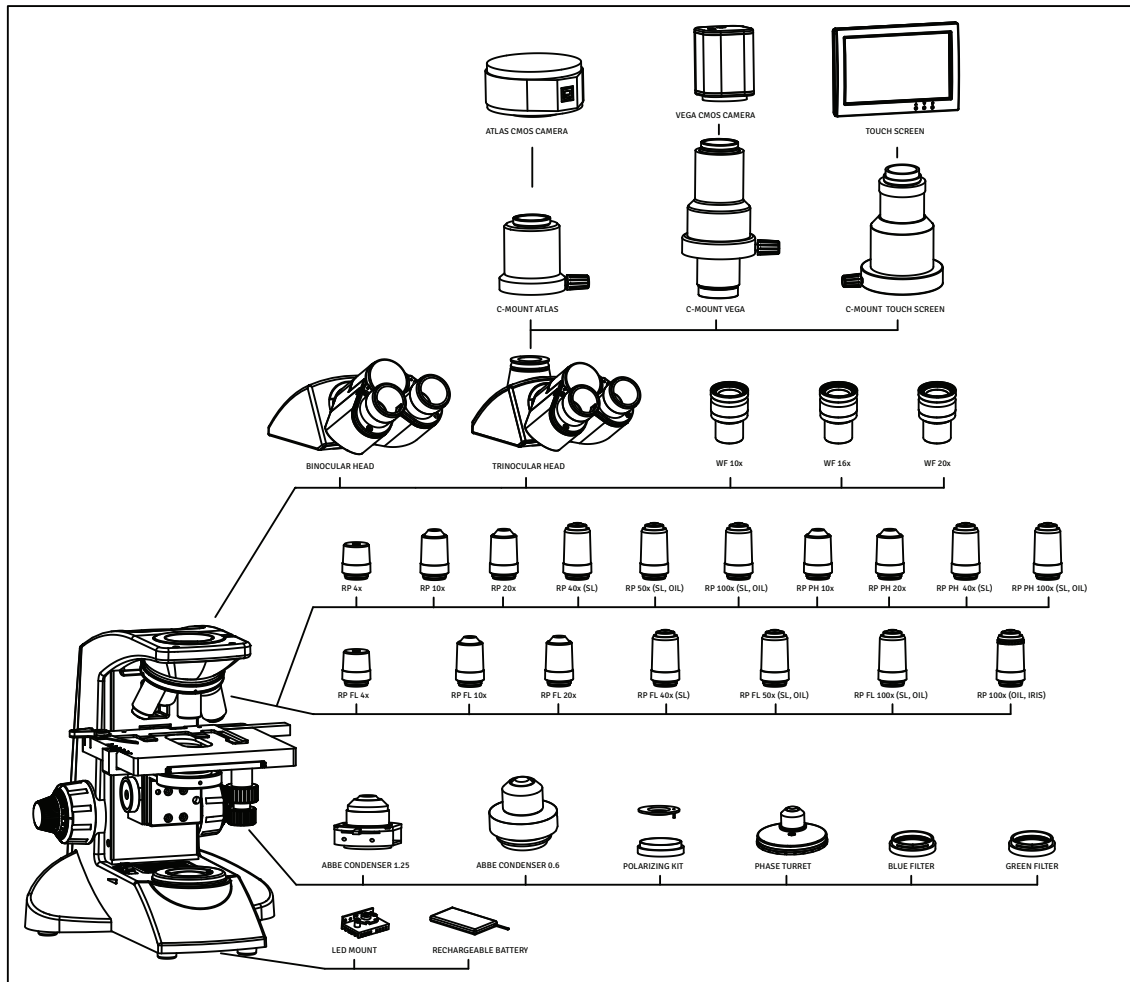


Battery



LED

SYSTEM DIAGRAM OF OPTIONAL ACCESSORIES



INSTALLATION AND OPERATION OF OPTIONAL ACCESSORIES

1 CAMERA MODULE SYSTEM

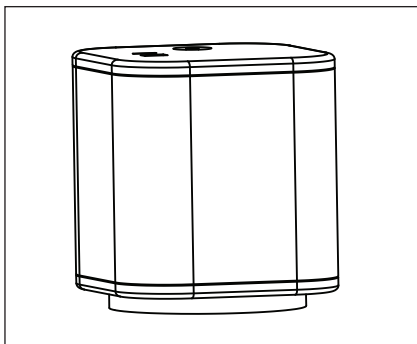


Fig. 4

1. Mount the Video adapter 1/2" on Trinocular observation head.
2. Mount Camera Module System on Video adapter.

2 OPTIONAL EYEPIECES

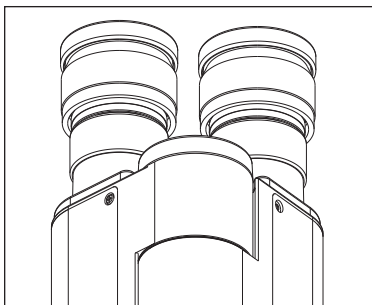


Fig. 5

10X eyepieces are provided. To replace:

1. Pull out the 10x eyepieces out from the observation heads Ocular tube.
2. Insert desired eyepieces in empty ocular tube.

3 PHASE TURRET

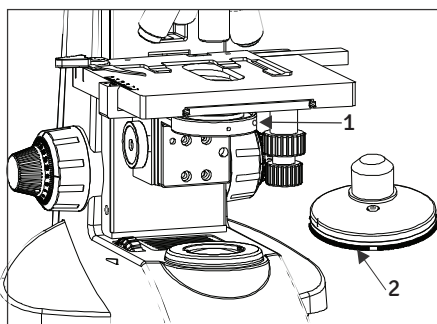


Fig. 6

1. Remove the condenser from its position by loosening the thumb screw (1) on right side of the condenser bracket as shown in figure 6.
2. Place the phase annulus turret in position from where the condenser has been removed.
3. Secure it with thumb screw (1). The phase turret can be adjusted at any desired phase annulus (10x, 20x, 40x & 100x) by turning the thumb wheel (2) to the desired position. There is also an '0' setting on the thumb wheel for bright field application.

Note: Refer to the user manual provided with the Phase Contrast kit for centering and alignment.

4 INSTALLING THE POLARIZING KIT

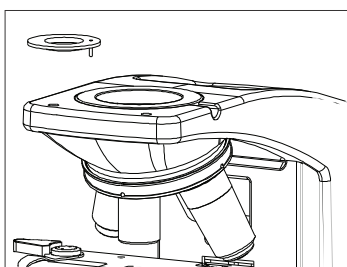


Fig. 7

1. Remove the observation head from its position and install the analyzer by firmly placing the positioning pin of analyzer into the locating hole of dovetail adapter as shown in Figure 7 and Figure 8.

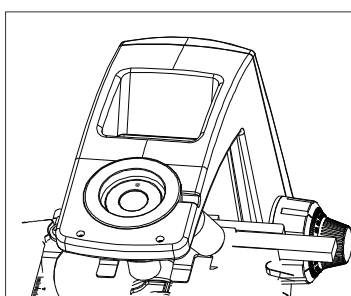


Fig. 8

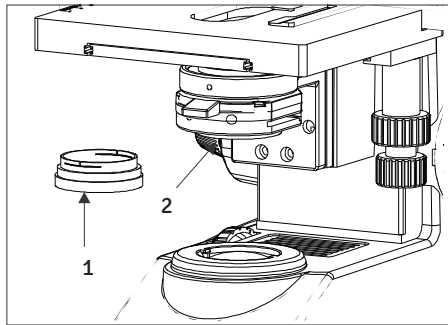


Fig. 9

2. Place the polarizer shown as (1) in figure. 9 on the illumination assembly shown as (2).

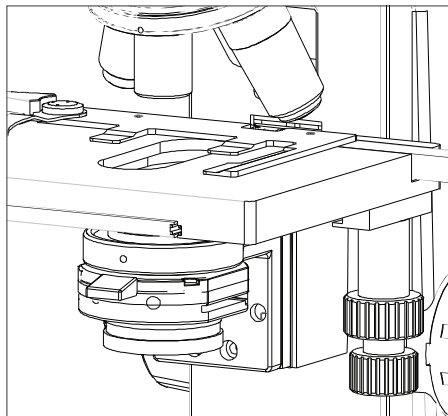


Fig. 10

3. Fix the polarizer by tightening the screw provided. Refer figure. 10.

1 OBJECTIVES

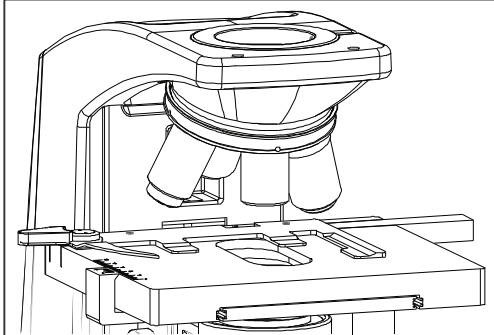


Fig. 11

Objectives are factory set. Objectives are par-centered and par-focalised 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 any slippage.

2 OBSERVATION HEAD

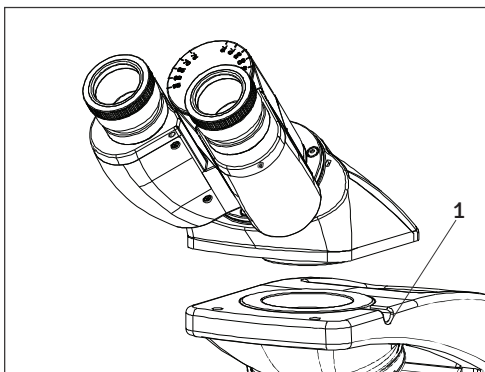


Fig. 12

Install the observation head using the following procedure:

1. Using Allen wrench 3mm (provided), loosen the Head Locking Screw (1) and remove the dust cover cap provided in dovetail Cavity as well as on observation head dovetail.
2. Mount the Observation Head by engaging the dovetail provided at the bottom of the head into the dovetail cavity provided in the microscopes arm.
3. Tighten the Head Locking Screw (1) after positioning the Observation head as desired. See figure 12.

3 EYEPIECES

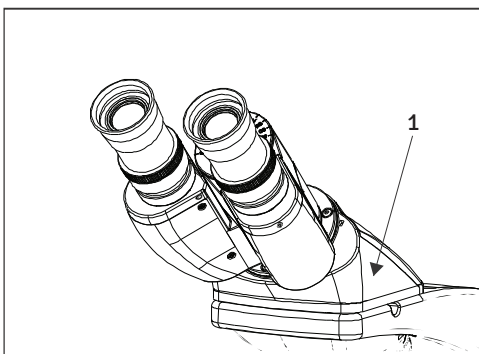


Fig.13

Insert the eyepieces into the ocular tube of Observation Head using following procedure:

1. Remove the protective caps from the observation tube.
2. Insert 10x eyepieces into the ocular sleeve and tighten the clamping screw (1) using allen wrench 1.2mm. See figure 13.

1 PROCEDURE FOR LED REPLACEMENT

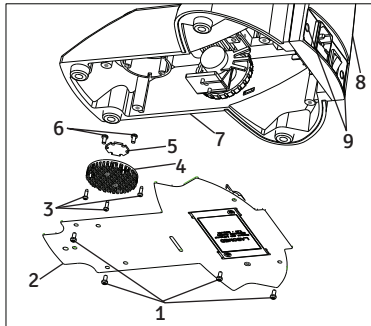


Fig. 15

1. Screws SS 658
2. Base Plate 9136000-825
3. Screws Heat Shield SS 714
4. Heat Shield 9135000-524
5. Star LED 9135000-901
6. LED Screws SS 658
7. Stand
8. Back Cover Plate 9135000-102
9. Decorative Cap 8123000-202

Figure 15

1. Pull out two decorative caps (shown as 9) from back cover plate.
2. Using Cross head screw driver, unscrew two screws (shown as 9) to detach back cover plate from stand.
3. Lay down the microscope on back cover over a clean surface to expose base plate.
4. Using Cross head screw driver, unscrew four screws (shown as 1) to open the bottom plate of the microscope.
5. Cut LED wire holding tie and Detach LED wire connector from PCM mounted on back cover plate.
6. Detach Heat Shield from critical mount by opening 3 screws (shown as 3) with cross head screw driver.
7. Detach LED from Heat Shield by loosening 2 screws (shown as 6).
8. Replace new LED on Heat Shield and connect wire connections to PCB.
9. Reverse steps 6 to 1, to complete the process.

Applicable LED replacement: LED P/N 9135000-901

2 MOUNTING THE DAYLIGHT (BLUE) FILTER

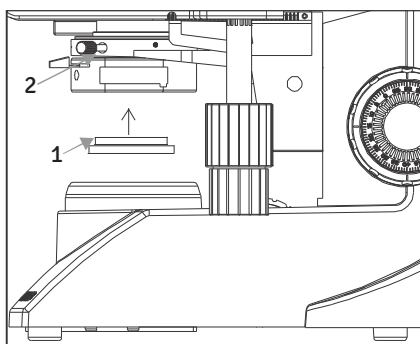


Fig. 16

This filter modifies the color of observation light into a natural (daylight color).

- Fit the filter (1) into the bottom of the condenser (2) until it clicks into (Figure 16).

3 INSTALLING OR REPLACING THE FUSE

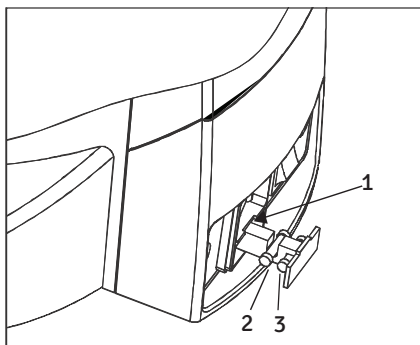


Fig. 17

Before replacing the fuse, remove the parts that may drop such as the filter and specimen from the microscope frame. Turn around the microscope to its back so that the AC inlet is visible (Fig. 17).

1. Use a flat head screw driver to open the fuse holder (Shown as 1).
2. The fuse tray will come out with live fuse (Shown as 2) and spare fuse (Shown as 3). Do not pull out the fuse tray with force as it is locked and will not be out completely.
3. Replace the primary fuse (Shown as 2) with the spare fuse.
4. Engage 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: For Fuse replacement Set the main switch to "O"(OFF), disconnect the power cord from the wall outlet.

4 INSTALLING OR REPLACING THE BATTERY

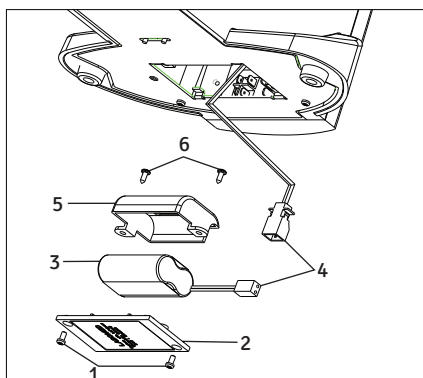


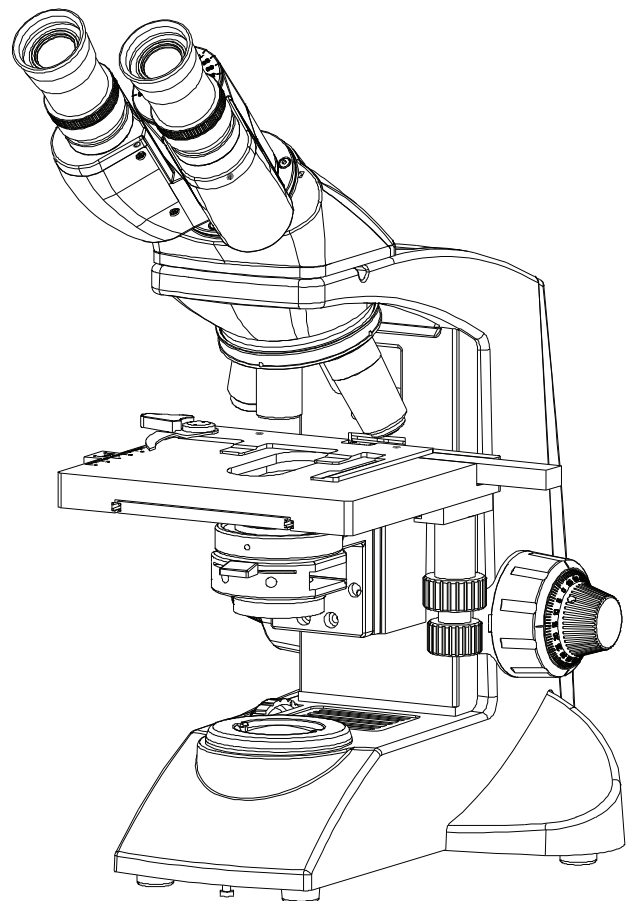
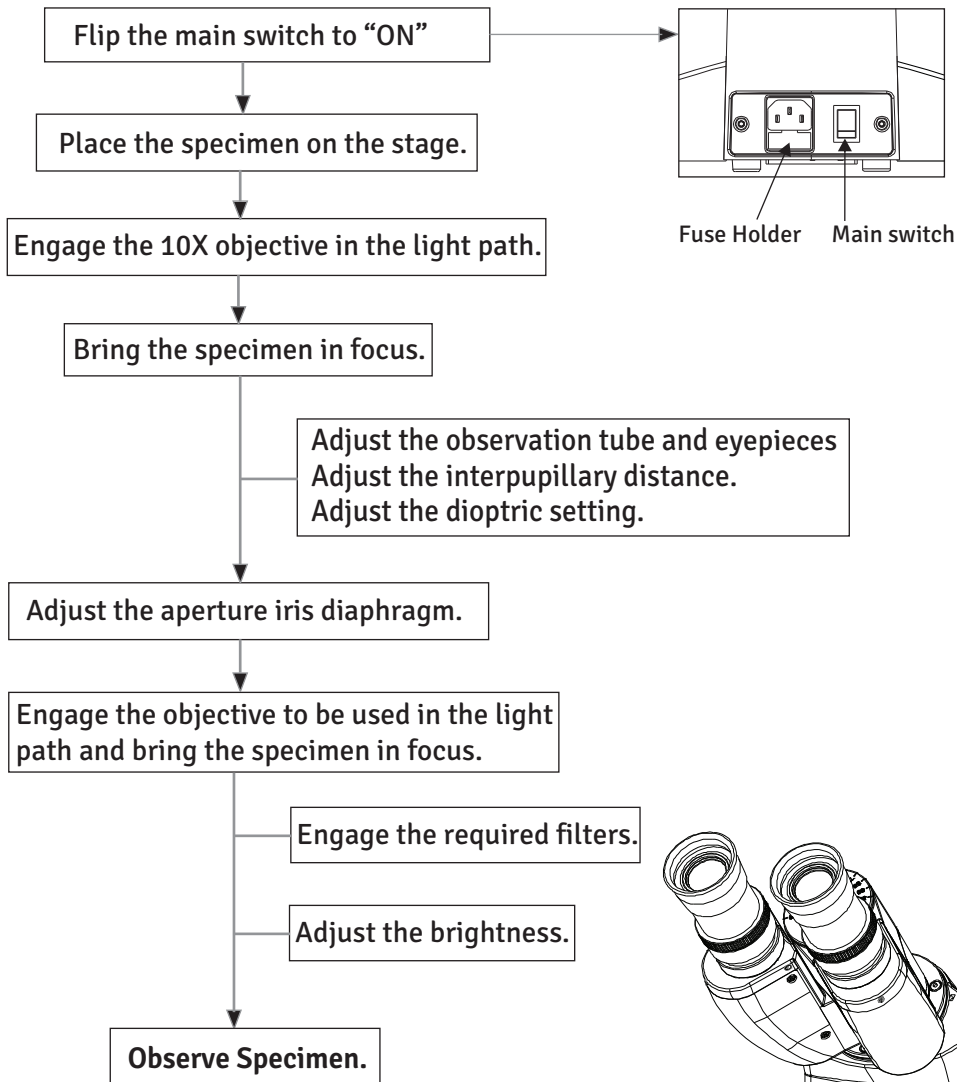
Fig. 18

Figure 18

1. Lay down the microscope on back cover over a clean surface to expose base plate.
2. Using Cross head screw driver, unscrew four screws (shown as 1) to open the battery cover from bottom plate.
3. Detach connector of connecting wires (shown as 4)
4. Remove two screws (shown as 6) provided on battery clamp with Cross head screw driver.
5. Replace existing Battery with new battery from LABOMED (Refer part no. below)
6. Reverse steps 5 to 1, to complete the process.

- | |
|---|
| <ol style="list-style-type: none"> 1. Screws for Battery cover bottom SS 658 2. Battery cover 9135100-204 3. Battery 9135000-903 4. Cable clamp EL-488 5. Battery clamp X54383 6. Screws Battery clamp SS 658 |
|---|

10 SUMMARY OF BRIGHT FIELD OBSERVATION PROCEDURE



1 TURNING THE LAMP ON

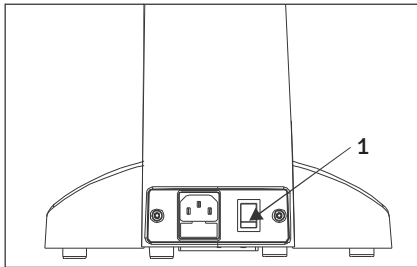


Fig. 19

1. Flip the main switch to “I” (ON) as shown in figure 19.

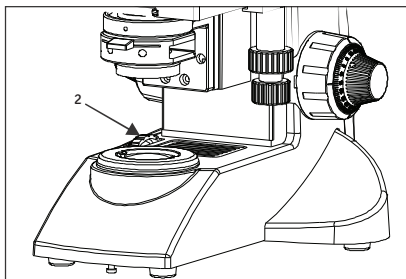


Fig. 20

2. Rotating the light intensity adjustment knob (Fig. 20) in the direction of the arrow increases brightness and rotating knob in the opposite direction decreases brightness. The intensity bar next the knob indicates the direction of intensity level.

2 PLACING SPECIMEN ON THE STAGE

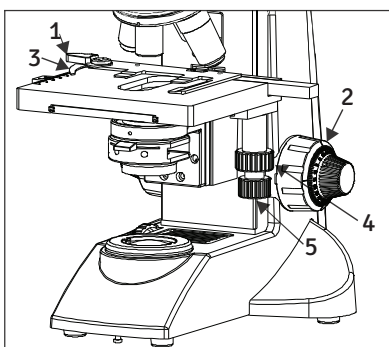


Fig. 21

1. Rotate the coarse adjustment knob (2) in anticlockwise direction to fully lower the stage.
2. Open the bow-shaped lever (3) outward by pulling on lever handle (1), place the specimen by sliding the specimen glass plate (s) on 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 control knob (1).
4. Rotating the upper co-axial knob controlling the y-axis movement (4) moves the specimen in the vertical direction. Rotating the lower knob (5) moves the specimen in the X-axis or horizontal direction.

Do not adjust the specimen holder directly by hand, for this will damage the rotary mechanisms.

CAUTION: When the specimen holder reaches stop position, the rotation force of the X/Y knobs become stiff. Stop rotating the knob at this point.

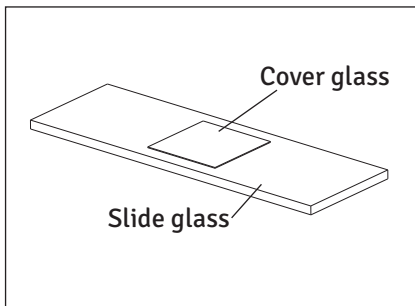


Fig. 22

Cover glass

This is the glass plate paced 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, width of 26mm ± 1mm and thickness between 0.9 and 1.4mm.

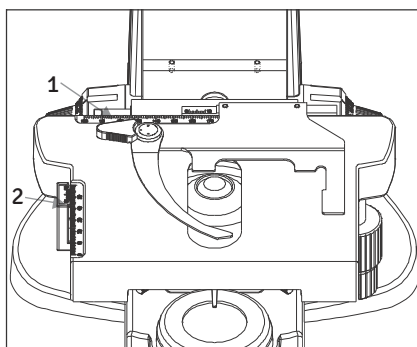


Fig. 23

“Vernier Scales”

These scales allow for easy identification of the specimen’s position (coordinates), making it easy to return to a particular region of interest after scanning the slide. (Figure 23)

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

Focusing Procedure (Figure 24)

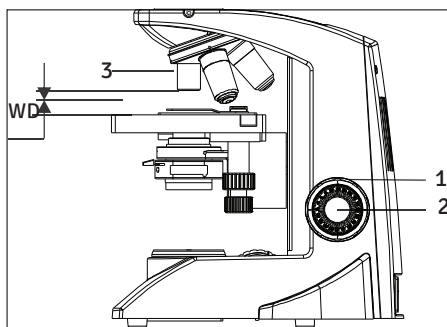


Fig. 24

1. Rotate the coarse adjustment knob (1) clockwise so that the Objective (3) is as close as possible to the specimen (we Recommend starting with 10X).
2. While observing the specimen through the eyepieces, slowly rotate the coarse adjustment knob (1) counter clockwise to lower the stage.
3. When coarse focusing of the specimen is obtained (an image is observed), rotate the fine adjustment knob (2) for fine detail focusing.

Working Distance (WD)

The WD refers to the distance between each objective and the specimen, when acute focus of the specimen is obtained.

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

4 ADJUSTING THE INTERPUPILLARY DISTANCE (IPD)

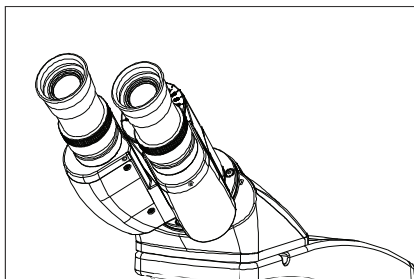


Fig. 25

The inter-pupillary distance adjustment consists of regulating the two eyepieces to align with both eyes' pupils so that you can observe a single microscope image through two eyepieces in stereo vision. This greatly helps to reduce fatigue and discomfort during observation.

While looking through the eyepieces, move both eye tubes laterally until the left and right fields of view coincide completely. The position of index dot (•) indicated the inter-pupillary distance value.

Note your interpupillary distance so that it can be quickly referred to in the future. This happens when multiple users work with the microscope.

6 ADJUSTING VIEWING HEIGHT

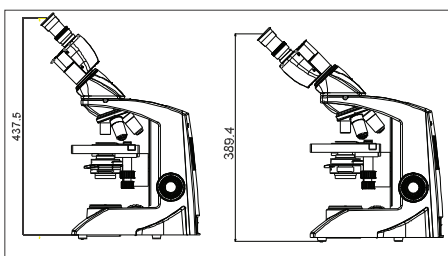


Fig. 26

Siedentopf binocular head, 45° inclined, IPD 45-75 mm is designed with a special feature to adjust viewing height up to 40 mm as per user's convenient and comfort. Refer fig. 26 for better understanding.

6 ADJUSTING THE DIOPTR

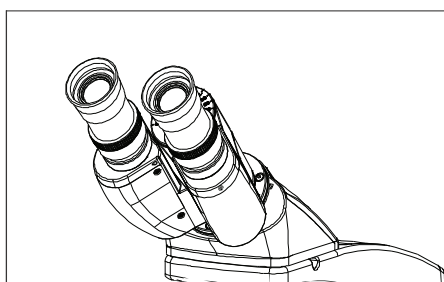


Fig. 27

Procedure for adjusting the diopter:

1. Rotate the right eyepiece to match the center of the diopter scale markings.
2. While looking through the right eyepiece with your right eye, rotate the coarse and fine adjustment knobs to bring the specimen into focus.
3. While looking through the left eyepiece with your left eye, rotate only diopter adjustment ring on the eyepiece until specimen is at its best possible focus.

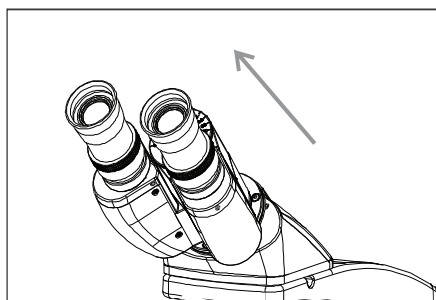


Fig. 28

Using the Eye Guards

When Wearing Eyeglasses

Use with the eye guards in the normal, folded-down position. This will prevent the eyeglasses from being scratched.

When Not Wearing Eyeglasses

Extend the folded eye guards outwards (direction of the arrow) to prevent ambient light entering into your line of vision.

7 CENTERING THE CONDENSER

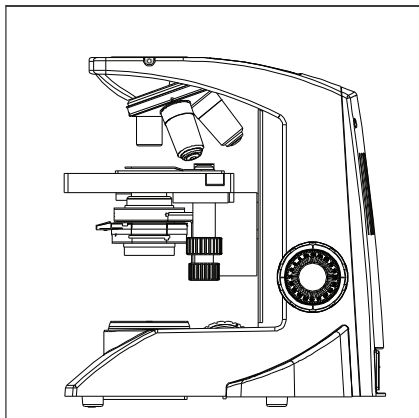


Fig. 29

The condenser is fixed and cannot d-center. In case of any error, remove the condenser by loosening thumb screw and Re-install the same.

8 ADJUSTING THE CONDENSER POSITION AND APERTURE IRIS DIAPHRAGM

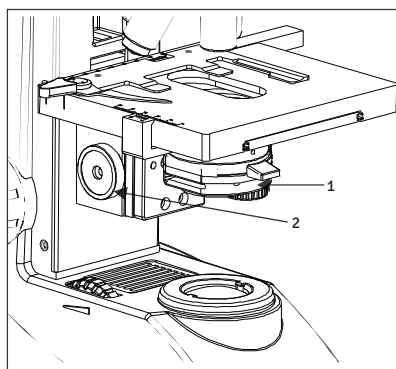


Fig. 30

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

1. Rotate the condenser height adjustment knob (2) to move the condenser to the highest or desired position (fig. 30).
2. The aperture iris diaphragm ring (1) has an objective Magnification scale (4x, 10x, 40x, 100x). Slide the diaphragm lever left right to achieve the desired illumination level (fig.30).

9 SWITCHING THE OBJECTIVES

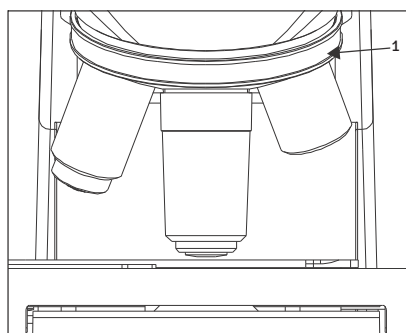


Fig. 31

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 objective nose piece.

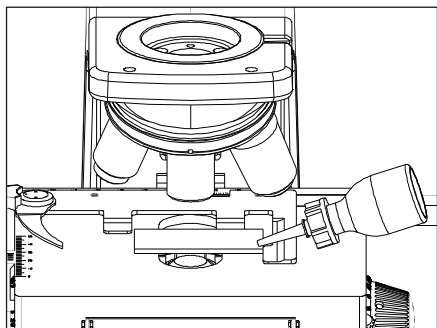
10 USING THE 100X IMMERSION OBJECTIVE

Fig. 32

The designated immersion oil should be in contact with the cover lens of the 100X immersion objective. If not, the specimen will appear distorted and dull. It is recommended that LABOMED immersion oil is always used.

Immersion Process:

1. Bring the specimen in focus using first the 10x, then 40x objective.
2. Disengage the 40x cycling towards 100x, and place a drop of immersion oil on the center point of the specimen.
3. Rotate the revolving nose piece to engage the immersion objective and rotate the fine adjustment knob to bring the specimen into focus

Caution:

(Since air bubbles in the oil will affect the image quality, 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 manifests the full performance when oil is placed between the slide glass and the front lens of condenser. If oil is not placed there, the observed image may appear dark.
5. After use, remove oil from the objective front lens by wiping with lens tissue slightly moistened with an ether (70%) alcohol (30%) mixture.

Caution:

If immersion oil makes contact with your eyes, rinse eyes out thoroughly with fresh water. If immersion oil makes contact with skin, wash affected areas with soap and water.

If prolonged discomfort is experienced, consult your physician immediately.

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

OBSERVATION	CAUSE	REMEDY
1. Uneven brightness in observation field	The objective is not engaged in the light path	Engage the objective into position until the nose turret clicks
	The condenser is too low	Raise up to achieve more light (Pg#18)
2. Dust or stains are visible in observation field	The objective, eyepieces, condenser and/or window lens are dirty	Clean them thoroughly as previously Prescribed in "Optical Cleaning" (Pg#4)
	The eyepieces, condenser, window lens and/or specimen glass is dirty	Clean glass parts thoroughly with lens tissue and cleaning solution Prescribed in "Optical Cleaning"(Pg#4)
3. Glare visible in field of view	The condenser is too low	Raise condenser light
	The condenser iris diaphragm ring is closed	Adjust the aperture according to the objective magnification (Pg#19)
4. Observation image is hazy or unclear	The objective is not engaged in the light path	Engage the objective into position until it clicks (Pg#20)
	The objective, eyepieces, condenser and/or specimen glass is dirty	Clean glass parts thoroughly with lens tissue and cleaning cloth
	Immersion oil is not used with an immersion objective	Use immersion oil as suggested (Pg#21)
	Bubbles are present in immersion oil	Remove the bubbles by agitation (Pg#20)
	The specified immersion oil is not used	Use the immersion oil supplied by LABOMED
5. Part of image is defocused	The objective is not engaged in the light path	Engage the objective into position until the nose turret clicks
	The specimen is not set properly on the stage	Set the specimen correctly on the stage and secure using the specimen holder (Pg#17)
6. Coarse focus adjustment cannot lower the stage low enough	The condenser is too low	Raise the condenser
7. Fields of view through both Eyepieces is inconsistent	The interpupillary distance is not adjusted properly	Adjust IPD to the appropriate setting (Pg#18)
	Dioptric compensation for the two eyes is not set	Adjust diopter settings (Pg#18)
	The left and right eyepieces are of different magnification	Ensure that both eyepieces are of same magnification. LABOMED does not recommend using third party eyepieces in conjunction with LABOMED eyepieces

OBSERVATION	CAUSE	REMEDY
8. Objective hits the specimen when an objective is switched 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 with thickness of 0.17mm
	The stage is raised too high	Lower the stage
	The slide has slipped from the slide holder	Re-position the slide in the slide holder
	Slide is of excessive thickness	Use slides with thickness between 0.9 and 1.4mm
9. LED does not turn On	LED is not mounted	Attach a LED
	LED is blown	Replace the LED
	The power cord is unplugged/ Not firmly secured	Ensure power cord is securely plugged into the box socket + wall outlet
	Fuse is blown	Check and replace with live fuse
	Battery is low	Charge battery
10. LED blows easily	The specified LED is not used	Replace with the specified LED

1. Illumination	Built-in illumination system LED		
2. Focusing mechanism	Stage height adjustment mechanism Fine adjustment scale: 3.0µm per graduation Fine adjustment stroke: 0.3mm per turn Total stroke: 12.7mm Co-axial coarse and fine focusing on ball drive		
3. Revolving nose piece	Quadruple positions fixed (Reverse angle)		
4. Eyepieces		Binocular	Trinocular
	Magnification	10x Fixed Type	10x Focusable Type
	Field number	18 Fixed Type	18 Focusable Type
5. Observation tube		Binocular	Trinocular
	Tube tilting angle	45° (Butterfly Movement)	30°
	Interpupillary distance adjustment range	48-75mm	48-75mm
6. Stage	Size	150 X 135mm (with mechanical stage)	
	Movement range	75 x 40mm	
	Specimen holder	Double specimen	
7. Condenser	Type	Abbe condenser (daylight filter detachable)	
	N.A.	1.25	
	Aperture iris diaphragm	Built-in	
8. Dimensions & Weight	284.0mm (L) x 227.0mm (W) x 360.6mm (H); 7 kg net		
9. Electrical	LED	3.6V-1W	
	LED Life	Upto 50,000 hrs.	
	Rechargeable Battery	7.4V, 1000mA	
	Charging time	Upto 5 hours (with totally consumed battery)	
	Total battery backup	Upto 4 hours (fully charged)	
10. Operating environment	Indoor use Altitude: Max. 2000 meters Ambient temperature: 5° to 40°C (41° to 104° F) Maximum relative humidity: 80% for temperature 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 normal voltage. Pollution degree: 2 (in accordance with IEC60664) Installation/Over voltage category: II (in accordance with IEC60664)		

Revision History

Rev. No.	Date of Release	DCR #	Change	App. By
1.1	29/6/19	DCR/06/19	Trinocular version Included	S. Bal
1.2	23/10/19	DCR/14/19	Removal of Bulb Information	S. Bal



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