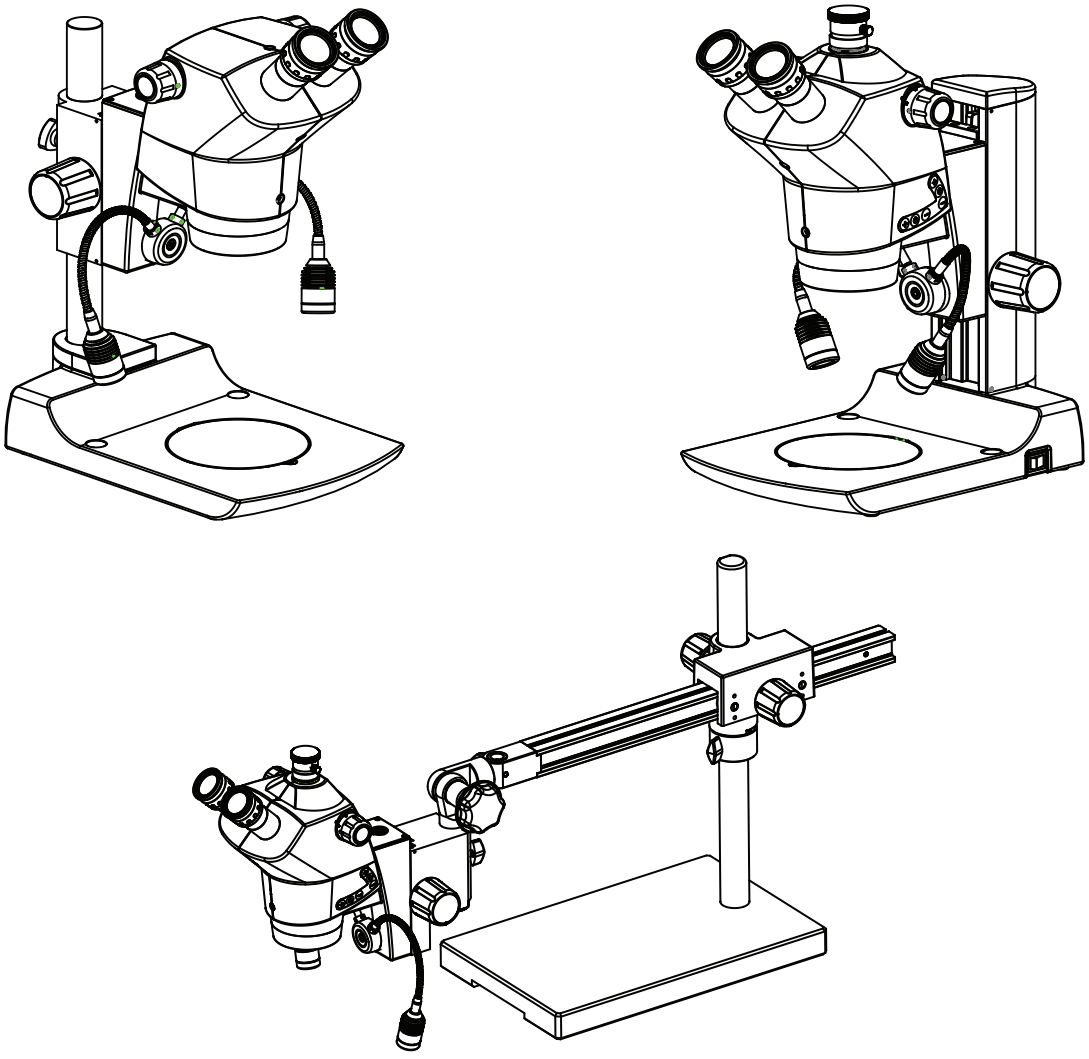
LABOMED
ideas for vision

Luxeo 6z
Stereo Zoom Microscope

User Manual



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

Part No.: 4146000-795
Issue 1.2
Printed April 2021

CONGRATULATIONS

Congratulations on purchasing a LABOMED Luxeo 6z, an excellent choice!

The outstanding features of this stereo microscope are its flexible design, its ease of use and its absolutely maintenance-free performance. Sturdy and reliable, it is exceptionally well suited to manufacturing, testing, quality control and other industrial applications.

In developing the LABOMED Luxeo 6z, we have placed great emphasis on simple, self-explanatory operation. However, please take the time to read the user manual and the notes on operating safety to learn about all of its features and capabilities and use them to your best advantage.

If you have any questions, please contact your local LABOMED representative. We will be glad to help!

TABLE OF CONTENTS

1. INTRODUCTION 1
2. SAFETY INFORMATION 2-6
   2.1 Symbols 2-3
   2.2 Important notes 4
   2.3 Care and maintenance instructions 5-6
3. INITIAL SETUP 7
   3.1 Unpacking your microscope 7
4. LUXEO 6z BINOCULAR MICROSCOPE 8
5. LUXEO 6z TRINOCULAR MICROSCOPE 9
6. DARKFIELD/BRIGHTFIELD (DF/BF) BASE (IF SUPPLIED) 10
7. MIRROR BASE LUXEO 6z BINOCULAR MICROSCOPE 11
8. MIRROR BASE LUXEO 6z TRINOCULAR MICROSCOPE 12
9. INSTALLATION 13-14
   9.1 Microscope setup 13
   9.2 Mounting the gooseneck LED assembly 13
   9.3 Setting up the darkfield attachment (if supplied) 14
10. OBSERVATION AND USE OF THE MICROSCOPE 15-17
   10.1 Power on the microscope 15
   10.2 Diopter setting of the eyepieces 15
   10.3 IPD adjustment 16
   10.4 Focusing the microscope 16
   10.5 Focusing torque adjustment 16
   10.6 Use of auxiliary objectives 17
11. OBSERVING EXTRA-HEIGHT SPECIMENS 18
   11.1 PL stand 18
   11.2 Assembling the Luxeo 6z PL stand 18
12. OVERVIEW OF LABOMED FLEXIBLE ARM STAND F 360 19
13. ASSEMBLY AND USE 20
   TABLE CLAMP 20
   FLEXIBLE ARM STAND AND FOCUSING ARM 21
14. SPRING TENSION ADJUSTMENT 22
15. DIMENSIONS 23
16. DIRECTIONS FOR USE 24
17A. LUXEO 6Z B/T (SWING ARM, MEDIUM DUTY) 25
17B. LUXEO 6Z B/T (SWING ARM, HEAVY DUTY) 26
18. DEFINITION OF PARTS 27
19A. ASSEMBLY FOR MEDIUM DUTY 28
19B. ASSEMBLY FOR HEAVY DUTY 29
20. ZOOM POD ASSEMBLY FOR MEDIUM/HEAVY DUTY 30
21. MAGNIFICATION CHART 31
22. SPECIFICATIONS 32
23. ELECTRICALS 33
24. SYSTEM DIAGRAM 34
25. SUMMARY OF THE OBSERVATION PROCEDURE 35
26. TROUBLESHOOTING GUIDE 36

1. INTRODUCTION

The Luxeo 6z is a stereo zoom microscope that combines a modern design with the latest optical and mechanical advances.

Designed for professionals as well as students, this microscope offers many features and functions for a wide range of applications.

A binocular body inclined at 45° provides extra clarity and contrast.

The pressure die-cast stand has frictionless ball-bearing side focusing to avoid any loss of motion.

The sturdy, modern design provides both comfort and stability.

The lateral magnification changer allows smooth, comfortable zoom adjustment.

The extended travel range allows larger and taller objects to be inspected.

The LED ring light is a cluster of 23 LEDs that can be switched between arc illumination and full circular illumination. The Luxeo runs on a direct-input power supply of 100–240 V AC, 50/60 Hz. This ensures continuous operation even when the supply voltage fluctuates.

The LEDs of this instrument have an average service life of up to 50,000 hours.

2. SAFETY INFORMATION

2.1 SYMBOLS

Warning and caution symbols used in this manual

Although LABOMED products are designed to provide the utmost safety during use, incorrect use or disregard of the instructions may cause personal injury or property damage. For your own safety, read the instruction manual carefully and thoroughly before using the product. Do not discard this manual. Always keep it near the product for easy reference. In this instruction manual, safety instructions are indicated with the symbols shown below. For your safety, always follow the instructions marked with these symbols.

⚠ WARNING	Disregarding instructions marked with this symbol may lead to death or serious injury.
⚠ CAUTION	Disregarding instructions marked with this symbol may lead to injury or instrument damage.

⚠ WARNING

1. Intended use of this product
   This product is intended only for microscopy. Do not use it for any other purpose.

2. Do not disassemble
   Disassembly may damage the instrument. Never disassemble any part except as described in this operation manual. Contact your LABOMED representative if you notice any malfunction of this instrument.

3. Check the input voltage
   When using the illumination, check that the input voltage shown on the power supply (supplied) matches the operating voltage. Contact your LABOMED representative about the voltage. Using an incorrectly matched illuminator may damage the equipment.

4. Power cord
   Always turn the power switch off and unplug the power cord before replacing the LED illuminator. Failure to do so may result in electric shock or equipment damage.

5. Heat from the light source
   When using the LED illuminator, do not place cloth, paper or highly flammable materials such as gasoline, benzene, thinner or alcohol near the illuminator, as there is a danger of fire.

SAFETY INFORMATION (CONTINUED)

⚠ CAUTION

1. Place of use

Use the stereo microscope in closed, dust-free rooms at +10 °C to +40 °C. Protect it from oil, chemicals and extreme humidity. Install electrical devices at least 10 cm from the wall and away from flammable substances.

In warm, humid climates, the components need special care to prevent the growth of fungus.

2. Transport

If at all possible, use the original packaging for shipping or transporting individual modules.

To prevent damage from vibration, the customer should disassemble all moving parts as described in the user manual and pack them separately.

3. Integration in third-party products

When LABOMED products are installed in third-party products, the manufacturer of the complete system or its dealer is responsible for following all applicable safety instructions, laws and guidelines.

4. Disposal

Disposal must comply with locally applicable laws and regulations.

If the warning label becomes stained or peels off, contact your LABOMED distributor.

SAFETY INFORMATION (CONTINUED)

2.2 IMPORTANT NOTES

Before installing, operating or using the instrument, you must read this user manual. In particular, observe all safety instructions.

User Manual

This user manual contains important instructions on operating safety, maintenance and accessories.

- This manual may not be reproduced or transmitted in part or in whole without the express permission of LABOMED.
- The content of this manual is subject to change without notice.
- Although every effort has been made to ensure the accuracy of this manual, if you notice any points that are unclear or incorrect, contact your nearest LABOMED representative.
- Some of the products described in this manual may not be included in the set you have purchased.
- If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

Legal Requirements

Follow general and local regulations on accident prevention and environmental protection.

EC Declaration of Conformity

Electrically operated accessories are built to the state of the art and are supplied with an EC Declaration of Conformity.

SAFETY INFORMATION (CONTINUED)

2.3 CARE AND MAINTENANCE INSTRUCTIONS

1. General Instructions

- Protect the stereo microscope from moisture, fumes and acids, and from alkaline, caustic and corrosive materials.
- Protect the stereo microscope from oil and grease. Never grease or oil mechanical parts or sliding surfaces.
- Follow the instructions of the disinfectant manufacturer.
- We recommend concluding a service contract with LABOMED.

2. Cleaning the lenses

To clean the lens surfaces, remove dust with a soft brush or gauze (cans of compressed air are ideal). To remove fingerprints or grease, use a soft cotton cloth, lens tissue or gauze lightly moistened with cleaning solution (85% petroleum ether and 15% isopropanol). For cleaning the optics, use xylene. Exercise caution when handling xylene.

Cleaning procedure

Place the eyepieces on a dust-free surface (e.g., fresh aluminum foil). Make all other optical components to be cleaned as accessible as possible.

a. Blow away all loose dust particles with a dust blower.
b. 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.
c. To remove oil, first use a solution of diluted liquid hand soap. If this does not give a satisfactory result, repeat the cleaning with a solvent (Optical Cleaning Solution: 85% petroleum ether and 15% isopropanol).
d. Always remove grease with a solvent.
e. Clean with a spiral motion from the center to the rim. Never wipe with zigzag movements, as this only spreads the dirt. On larger optical surfaces (e.g., tube lenses), start the spiral motion at the rim, work toward the center, and then follow with a center-to-rim cleaning motion. Several spiral wipes are normally recommended. We recommend pure, volatile petroleum ether or the Optical Cleaning Solution described in step c above.



Zig-Zag motion ⊗



Spiral motion ✓

Wipe with a spiral movement. Do not use a zigzag motion!

3. Cleaning painted surfaces

Do not use any organic solvent (e.g., thinner, xylene, ether or alcohol) to clean the painted surfaces of the instrument. Clean painted surfaces with a very lightly moistened microfiber cloth. Remove loose dust and dirt with a soft-hair brush used only for this purpose.

SAFETY INFORMATION (CONTINUED)

4. Cleaning coated parts and plastic parts

- **Remove dust and dirt particles with a soft brush or a lint-free cotton cloth.**
- **Remove coarse debris with a moistened disposable cloth.**
- **Do not use acetone, xylene or nitro-based thinners.**
- **Never use chemicals to clean colored surfaces or accessories with rubberized parts. This could damage the surfaces, and specimens could be contaminated by abraded particles.**

Caution

Do not use aggressive organic solvents such as acetone to clean painted surfaces and plastic parts of the microscope.

5. Accessories, maintenance and repair

Accessories

- **Use only the accessories described in the "SYSTEM DIAGRAM" section of this user manual.**

Maintenance, Repair and Servicing

- **The LABOMED Luxeo 6z stereo microscope is virtually maintenance-free. To ensure that it always operates safely and reliably, we recommend periodic inspections or, if appropriate, a maintenance contract with LABOMED.**
- **We recommend concluding a service contract with LABOMED.**
- **For maintenance and repair, use only OEM spare parts.**

Repairs and service work

- **Use only original LABOMED spare parts.**
- **Before opening the instrument, switch off the power and unplug the power cable.**
- **Touching live circuits can cause injury.**

6. Never attempt to dismantle the instrument

Never attempt to dismantle the instrument, as this could impair its operating efficiency and accuracy.

7. Disinfection

1. Household bleach (sodium hypochlorite 5%) diluted to 5000 ppm (10 parts water, 1 part bleach).

OR

2. 70% isopropyl alcohol.

Disinfection Procedure:

- **Take a muslin cloth.**
- **Moisten it until it feels damp.**
- **Disinfect/clean the surface gently.**

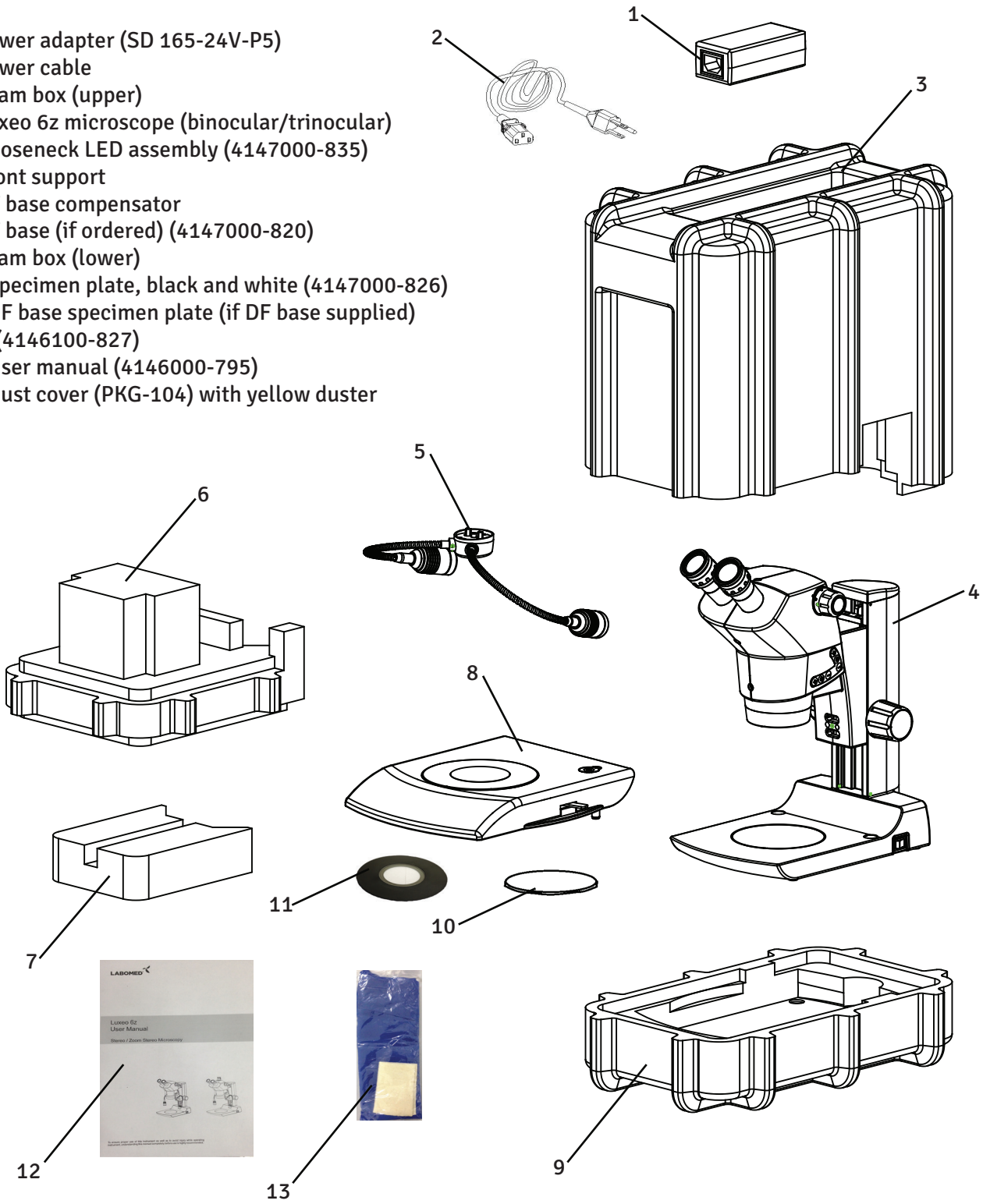
Note: 1. Wear a mask and gloves while cleaning and disinfecting.
2. When cleaning, the muslin cloth must not be dripping wet, to prevent seepage into and rusting of moving or bare parts.
3. Alcohol is flammable. Use it as a surface disinfectant only in well-ventilated spaces.

3. INITIAL SETUP

3.1 UNPACKING YOUR MICROSCOPE

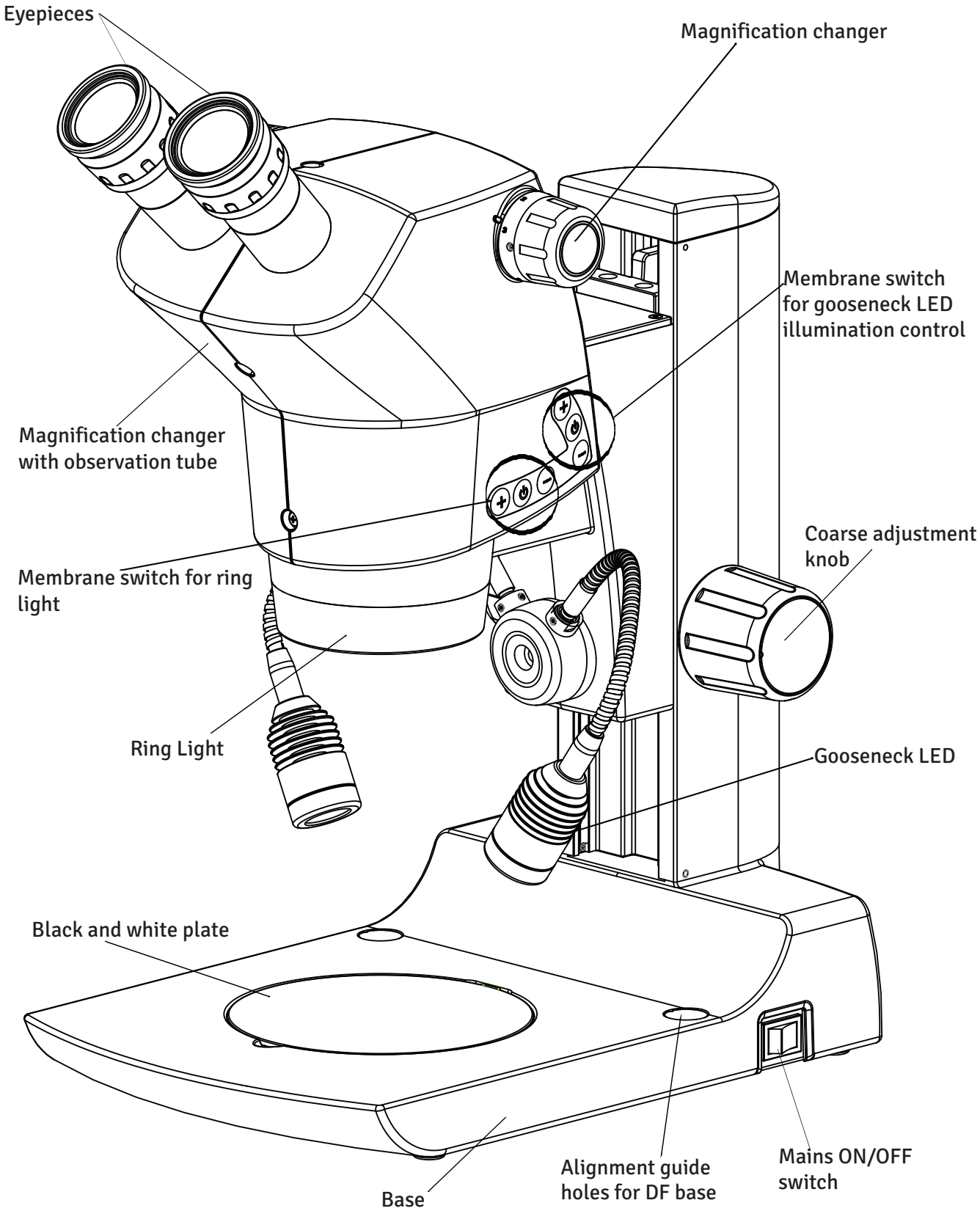
LIST OF PARTS

1. Power adapter (SD 165-24V-P5)
2. Power cable
3. Foam box (upper)
4. Luxeo 6z microscope (binocular/trinocular)
5. Gooseneck LED assembly (4147000-835)
6. Front support
7. DF base compensator
8. DF base (if ordered) (4147000-820)
9. Foam box (lower)
10. Specimen plate, black and white (4147000-826)
11. DF base specimen plate (if DF base supplied) (4146100-827)
12. User manual (4146000-795)
13. Dust cover (PKG-104) with yellow duster



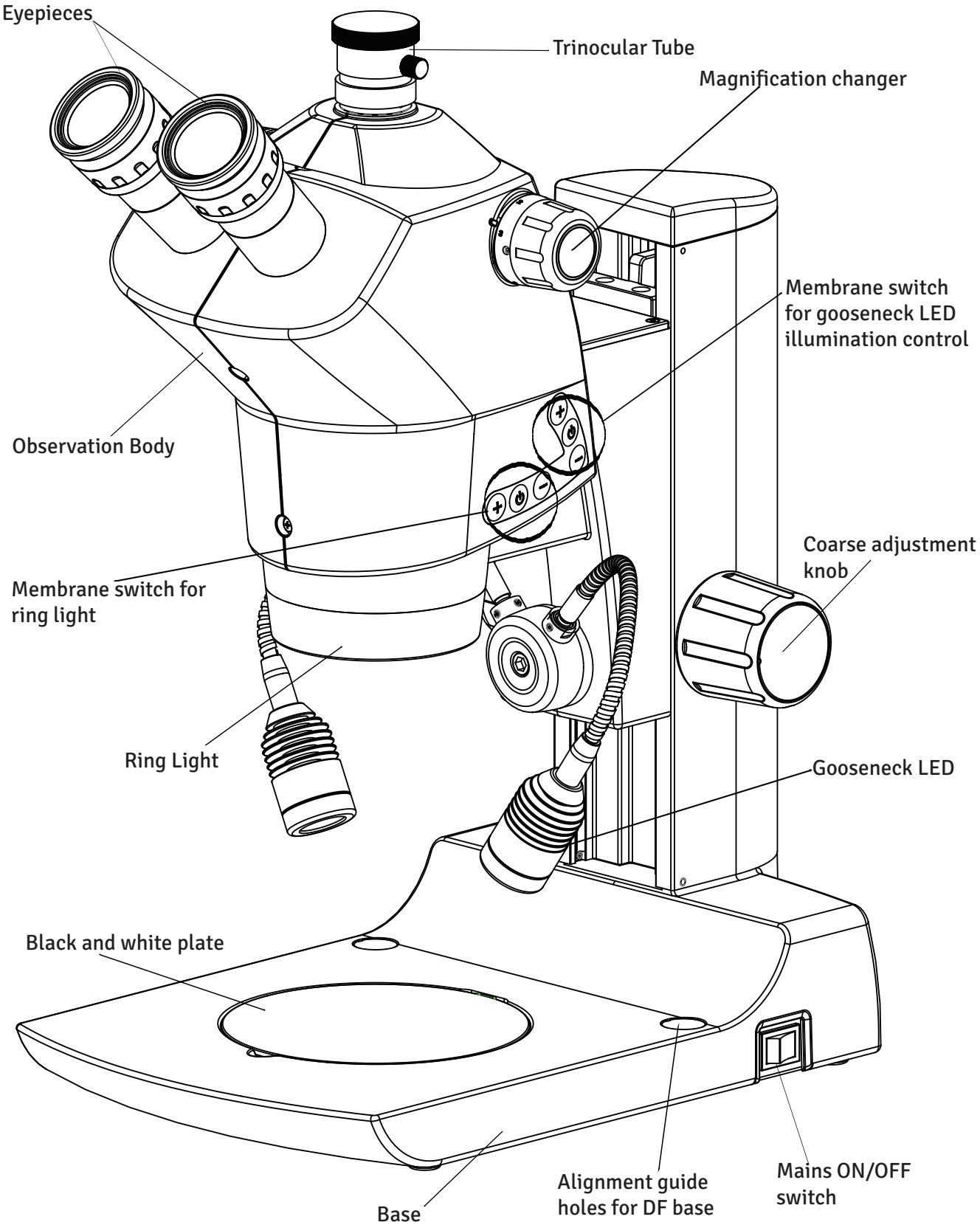
4. LUXEO 6z BINOCULAR MICROSCOPE

Part No. 4146101-800



5. LUXEO 6z TRINOCULAR MICROSCOPE

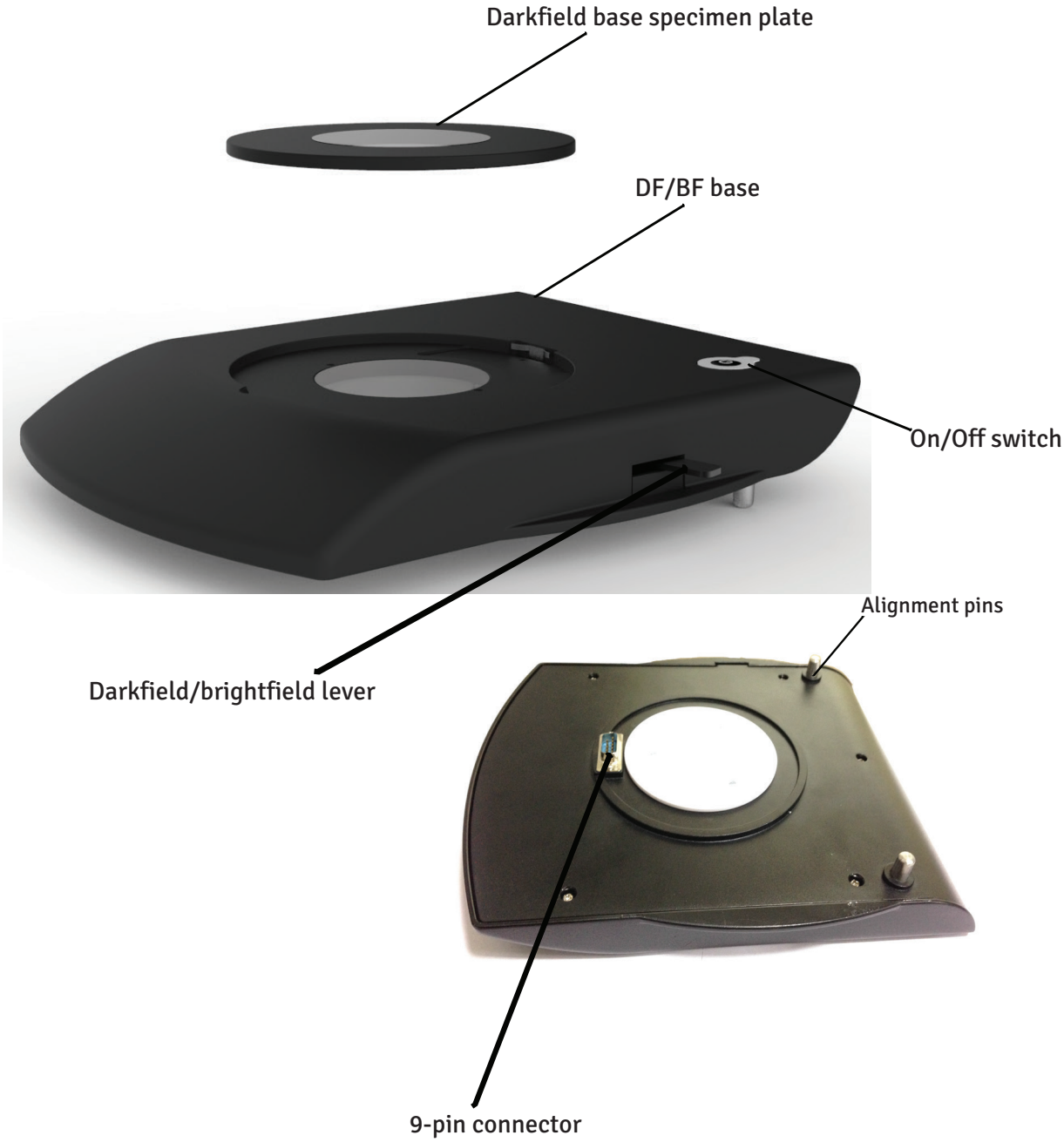
Part No. 4146102-800



6. DARKFIELD/BRIGHTFIELD (DF/BF) BASE

Part No. 4146100-826

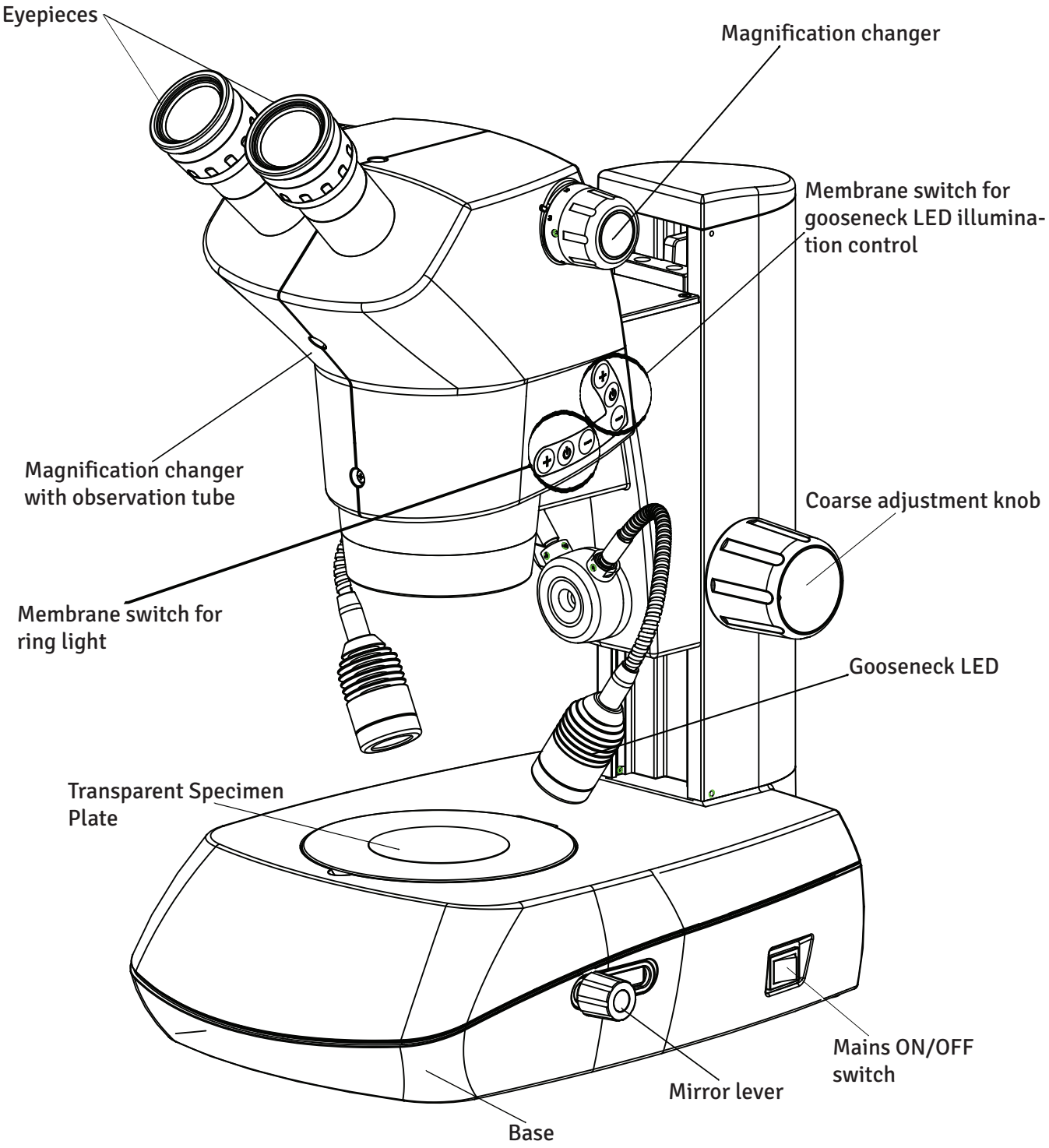
Note: The DF/BF base is not part of the standard Luxeo 6z configuration. It is supplied on order. For use of the DF/BF base, see page 14.



7. MIRROR BASE LUXEO 6z BINOCULAR MICROSCOPE

PRECONFIGURED MIRROR BASE FOR DARKFIELD ILLUMINATION

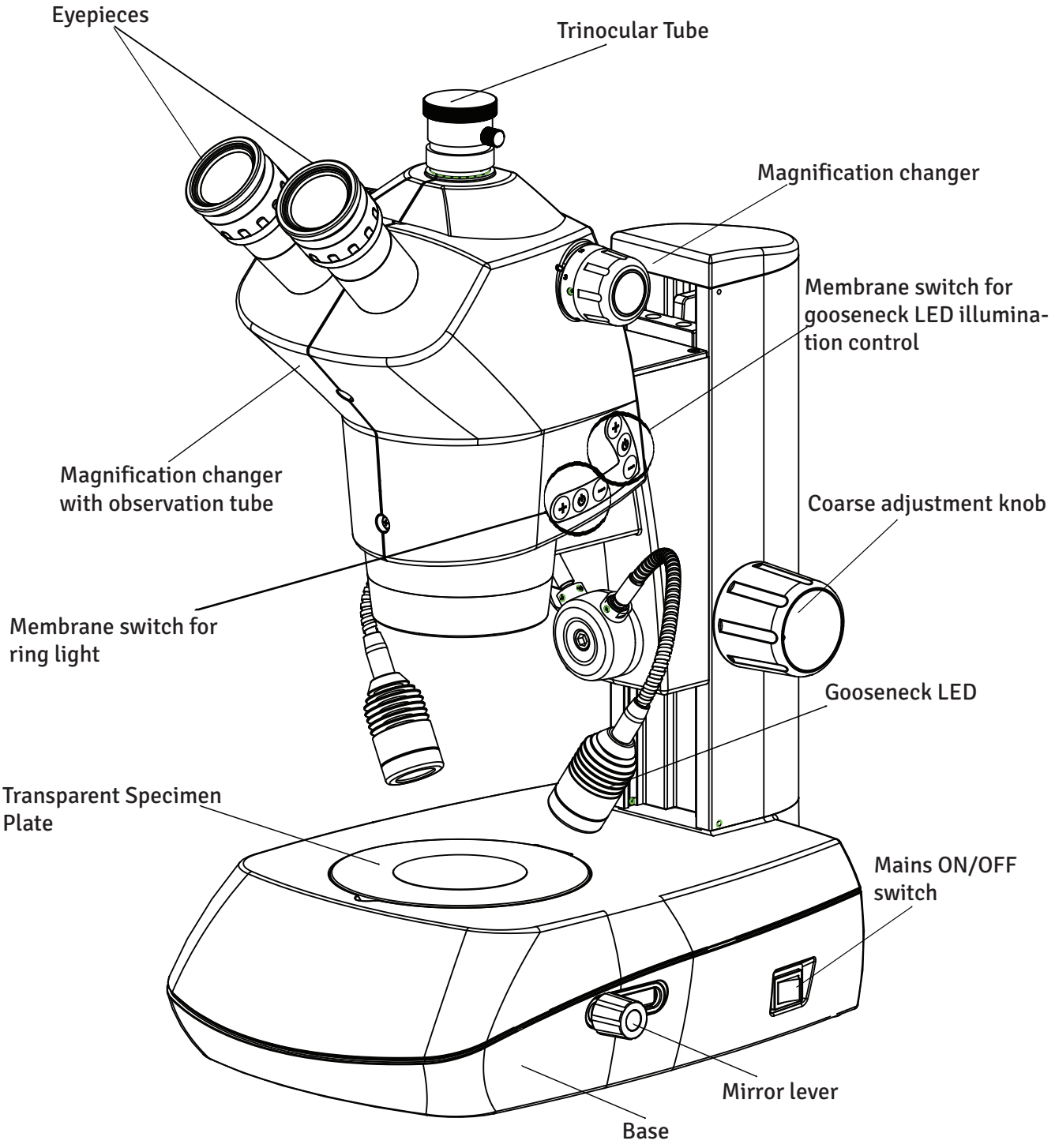
Darkfield observation on the Luxeo 6z is provided by a specialized stand with a reflecting mirror and a light-shielding plate that direct an inverted hollow cone of illumination onto the specimen at oblique angles. It has the same function as the DF/BF base, with the advantage that it is factory-configured and dedicated to darkfield use only.



8. MIRROR BASE LUXEO 6z TRINOCULAR MICROSCOPE

PRECONFIGURED MIRROR BASE FOR DARKFIELD ILLUMINATION

Darkfield observation on the Luxeo 6z is provided by a specialized stand with a reflecting mirror and a light-shielding plate that direct an inverted hollow cone of illumination onto the specimen at oblique angles. It has the same function as the DF/BF base, with the advantage that it is factory-configured and dedicated to darkfield use only.



9. INSTALLATION

9.1 MICROSCOPE SETUP

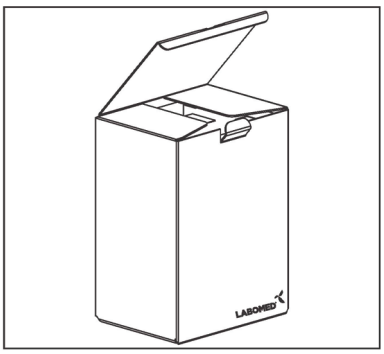


Fig. 1

1. Open the cardboard box from the top.
2. Take out the user manual, power cord and power adapter.
3. Take the foam box out of the cardboard box and remove the top of the foam box.
4. Take out the gooseneck assembly.
5. Raise the microscope bracket with the coaxial knobs.
6. Remove the front support packing.
7. Remove the dummy foam block if no DF/BF base is supplied.
8. Lift the microscope out of the packing and place it on a sturdy table. The eyepieces are already installed in the ocular tubes. An ocular tab prevents the eyepieces from falling out, rotating freely or being pulled out easily.
9. Refit the gooseneck assembly as described below.

9.2 MOUNTING THE GOOSENECK LED ASSEMBLY

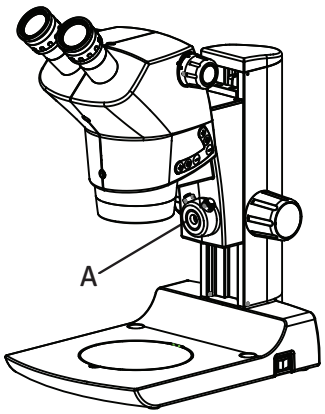


Fig. 2

1. Open the dummy gooseneck mount with a 4.0 mm Allen wrench and carefully secure the coupling connectors (A). See Fig. 2.

Note: The coupling connectors should be outside the bracket so that the gooseneck LED connectors can be connected easily.

2. Take the gooseneck LED assembly (B) and connect the gooseneck connectors. See Fig. 3.

3. Refit the gooseneck LED assembly on bracket (D) with the same 4.0 mm Allen wrench. See Fig. 4.

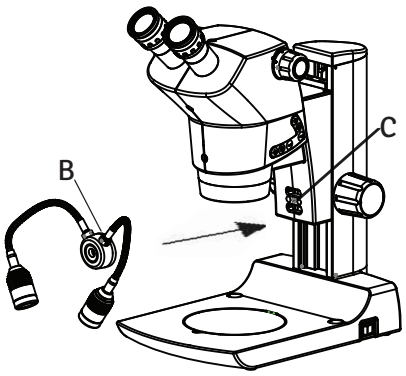


Fig. 3

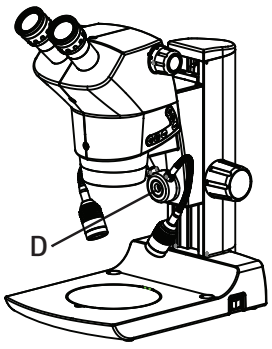


Fig. 4

INSTALLATION (CONTINUED)

9.3 SETTING UP THE DARKFIELD ATTACHMENT (IF SUPPLIED)

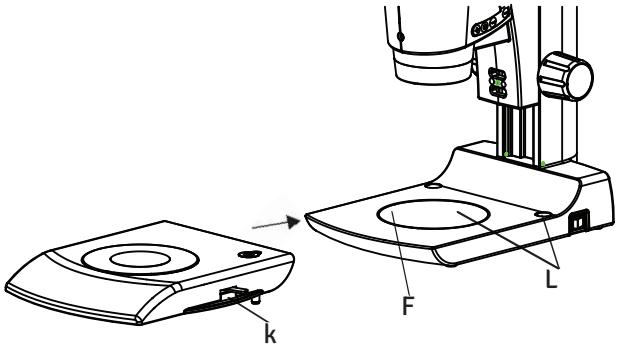


Fig. 5

1. Remove the black and white specimen plate from the base by pressing the plate as shown in Fig. 5.
2. Gently place the darkfield base onto the Luxeo 6z base, matching the guide pins of the darkfield base (K) with the guide holes (L). See Fig. 5.
3. The 9-pin male connector under the darkfield base connects automatically to the 9-pin female inlet (F) while you lift the disc gently onto the Luxeo 6z base. See Fig. 5 and 6.
4. For illumination, press the On/Off button (N) on the darkfield base. See Fig. 6.
5. Place the transparent specimen plate (P) on the DF/BF base. See Fig. 6.
6. Push the lever (O) back for darkfield illumination. Pull the same lever (O) forward for brightfield illumination.

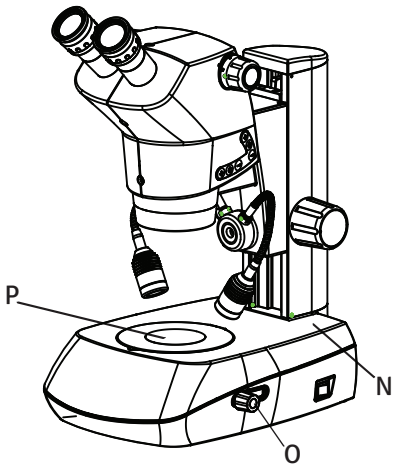


Fig. 6

10. OBSERVATION AND USE OF THE MICROSCOPE

10.1 POWER ON THE MICROSCOPE

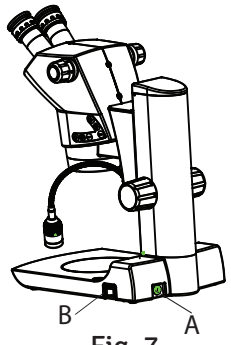


Fig. 7

Plug in the output connector of the power adapter and connect the power adapter to the AC outlet.
Press the power switch (B).
The incident illumination (ring light) is controlled with switch (G), which lights all 23 LEDs: eleven front LEDs and twelve rear LEDs.
Press the button in the following sequence to operate the LEDs.

- First press of button (G): all LEDs in the ring light up.
- Second press of button (G): the twelve rear LEDs in the arc light up.
- Third press of button (G): the eleven front LEDs in the arc light up.
- Fourth press of button (G): all LEDs switch off.

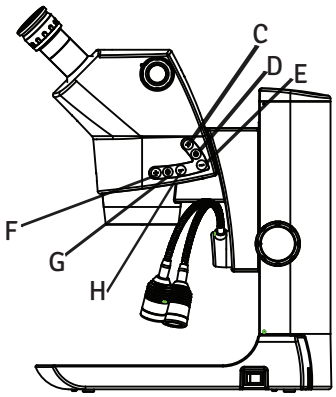


Fig. 8

Intensity control
Press buttons (F) and (H) to increase or decrease the ring light intensity in six steps.

Switch (D) controls the incident illumination (gooseneck LEDs) and lights both gooseneck LEDs. Press the button in the following sequence to operate the gooseneck LEDs.

- Press button (D) to light both gooseneck LEDs.
- Press button (D) a second time to switch off the gooseneck LEDs.

Intensity control
Press buttons (C) and (E) to increase or decrease the gooseneck LED intensity in six steps.

10.2 DIOPTER SETTING OF EYEPIECES

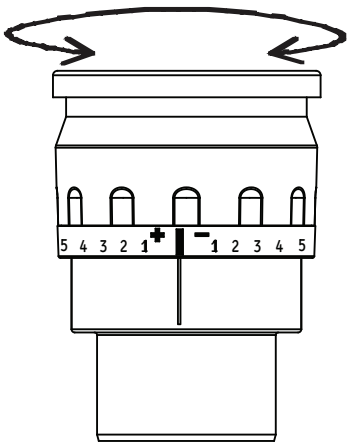


Fig. 9

Perform this adjustment every time the observer changes, since eyesight differs between individuals.

1. Turn the diopter rings on both eyepieces to the 0 position: align the 0 line with the index line.
2. Turn the zoom knob to the highest magnification. Focus on the sample with the focus knob.
3. Turn the zoom knob to the lowest magnification. Looking through the left eyepiece with your left eye, focus on the sample with the diopter ring of the left eyepiece. Then, looking through the right eyepiece with your right eye, focus on the sample with the diopter ring of the right eyepiece.
4. Repeat steps 2 and 3 until the image stays in focus when the zoom magnification is changed. This adjustment ensures a sharp image throughout the zoom range.

OBSERVATION AND USE OF THE MICROSCOPE (CONTINUED)

10.3 IPD ADJUSTMENT

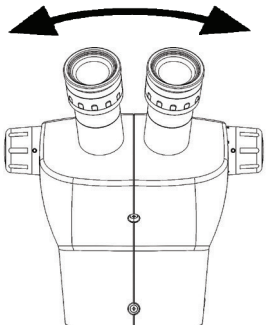


Fig. 10

Perform this adjustment every time the observer changes, since the interpupillary distance differs between individuals. Adjust the interpupillary distance so that the fields of view of both eyes merge into one. Move the eyepieces while holding each sleeve with both hands.

10.4 FOCUSING THE MICROSCOPE

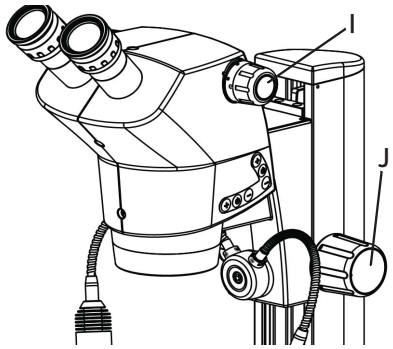


Fig. 11

1. Switch on the illumination required for the selected specimen.

2. Set both eyepieces to the 0 diopter reading.
3. Adjust the IPD as needed.
4. Place a specimen on the black and white plate or on the DF/BF base, depending on the configuration provided.
5. Set the zoom pod to the highest magnification with knob (I).
6. Looking through the eyepieces, focus on the specimen with the coarse adjustment knob (J).
7. Bring the image into critical focus.
8. Change the magnification from highest to lowest.
9. The image should now remain in focus. This setting is called parfocal adjustment of the microscope.
10. The microscope is ready to use.

10.5 FOCUSING TORQUE ADJUSTMENT

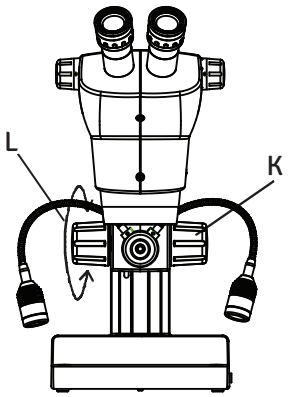


Fig. 12

The focusing torque of the Luxeo 6z microscope is preset to the maximum limit and withstands a maximum force of 20 kg with the standard binocular or trinocular head.

If required, the torque of the focusing mechanism can be loosened for the user's convenience as follows:
1. Firmly hold the right knob (K). See Fig. 12.
2. Turn the left knob (L) clockwise to loosen the torque of the focusing mechanism.
3. As explained above, the torque cannot be tightened further, but it can be loosened for the user's convenience if required.

OBSERVATION AND USE OF THE MICROSCOPE (CONTINUED)

10.6 USE OF AUXILIARY OBJECTIVES

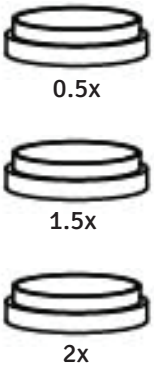


Fig. 13

The following auxiliary objectives can be threaded into the ring light.

1. 0.5x: for use with the PL stand only, because of its long working distance.
2. 1.5x and 2x: for use with all Luxeo 6z stands.

11. OBSERVING EXTRA-HEIGHT SPECIMENS

11.1 PL STAND

The PL stand is useful for:

1. Observing extra-high objects.
2. Lower magnification with the 0.5x auxiliary objective.

11.2 ASSEMBLING THE LUXEO 6Z PL STAND

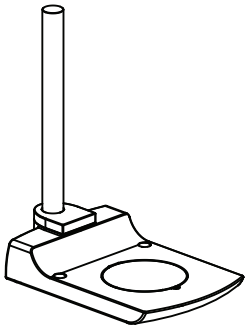


Fig. 14

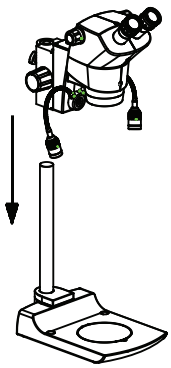


Fig. 15

Place the stand on a level surface.

Fit the zoom pod with its bracket to the pillar as shown and tighten it with the clamping knob on the bracket. See Fig. 15 and 16.

Connect the power supply output (B) to the inlet socket (A) on top of the zoom bracket. See Fig. 17.

Connect the power supply to the microscope (C). See Fig. 17.

Follow the procedure and the steps on pages 13 and 16 to set up the microscope.

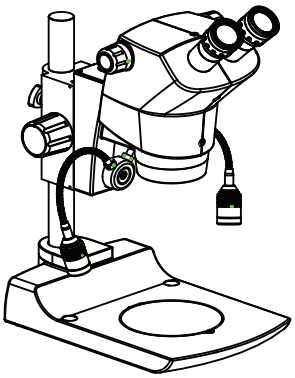


Fig. 16

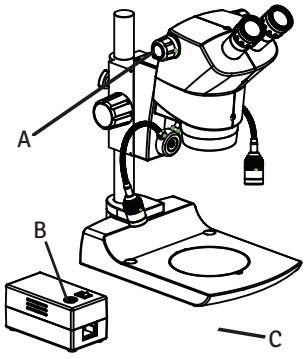
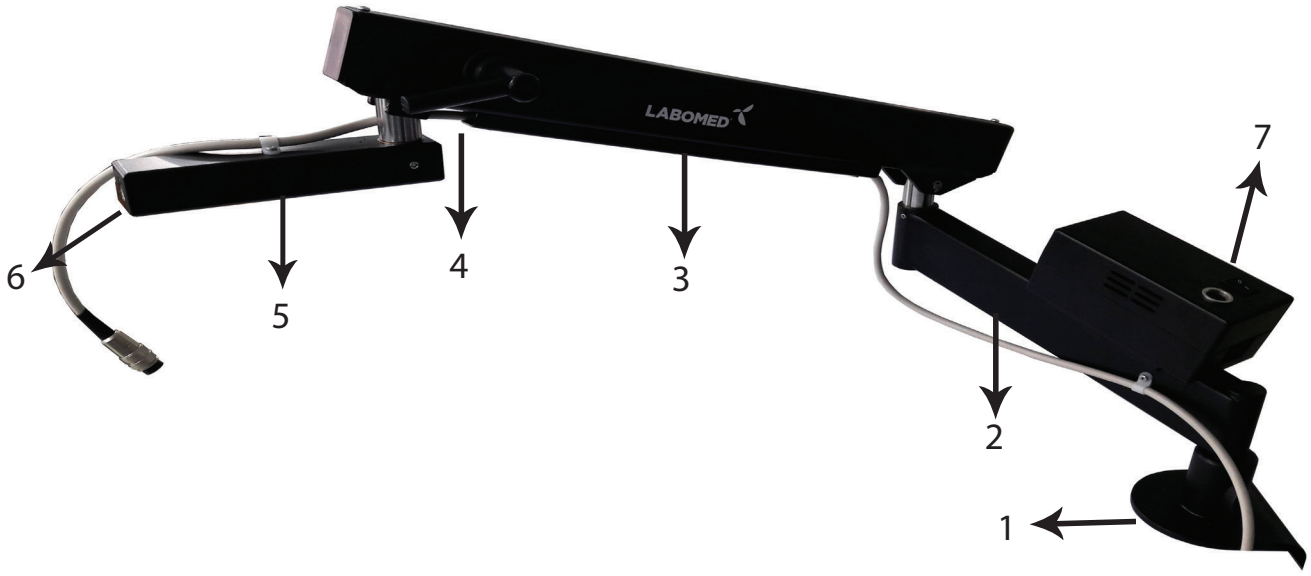


Fig. 17

12. OVERVIEW OF LABOMED FLEXIBLE ARM STAND F 360



1. Table clamp
   - **Tabletop thickness up to 100 mm**
   - **Min. space required on the table: 100 × 105 mm**

2. Rotatable arm
   - **Can be rotated 360°**
   - **Fixed at a 15° angle for freedom of movement around the specimen**

3. Flexible arm
   - **Can be rotated 360°**
   - **Weight balance: 1.5–7 kg (factory setting 2.7 kg)**
   - **470 mm height adjustment**
   - **Smooth guide adjustment**

4. Fastening lever for height adjustment

5. Horizontal arm

6. Connection to the focusing arm
   - **Accepts focusing arms with a standard pin diameter of 16 mm**

7. Power supply
   - **Output: 24 V**
   - **Input: 100–240 V universal power supply**

13. ASSEMBLY AND USE

TABLE CLAMP

Instructions for safe assembly

The table clamp is designed for tabletops up to 100 mm thick.

Before installation, make sure that the tabletop is strong enough to carry the weight. Otherwise the microscope may not function properly or the user may be injured, and the microscope or the specimen may be damaged.

Assembling the Table Clamp

1. Push the table clamp completely over the tabletop.
2. Tighten the two clamp screws (a). See Fig. 1.
3. Insert the flexible arm into the table clamp.
4. Tighten the clamping knob (c). See Fig. 2.

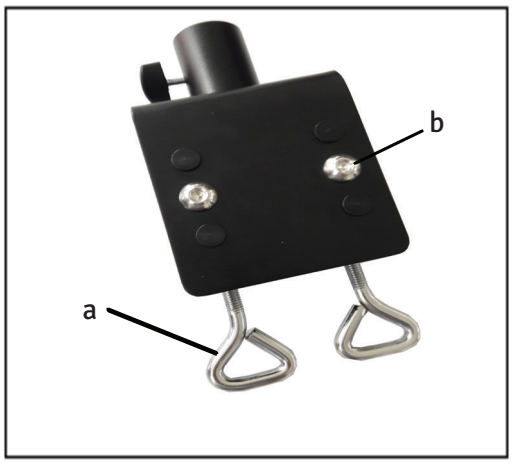


Fig. 1

Adjusting the Table Clamp

The table clamp has 6 holes (4 are covered with hole plugs) for adjustment to the table thickness. If the table clamp does not fit the thickness of the tabletop, unscrew the two screws (b), move the loose part of the clamp as required and refit the hole plugs. See Fig. 1.

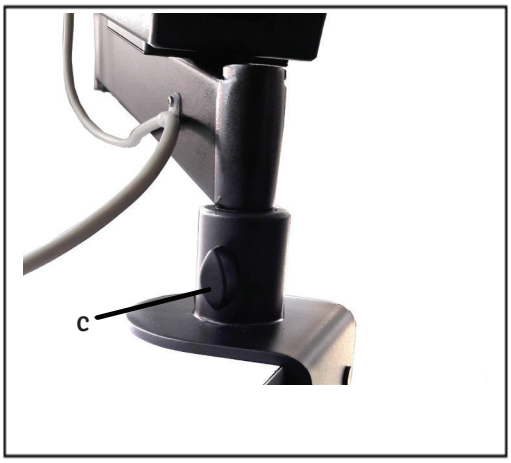


Fig. 2

ASSEMBLY AND USE (CONTINUED)

FLEXIBLE ARM STAND AND FOCUSING ARM

Load Capacity

This flexible arm stand is designed for a load capacity of 1.5–7 kg and keeps the stereo microscope balanced without tightening the fastening lever.

You can lock the working height if necessary by tightening the fastening lever.

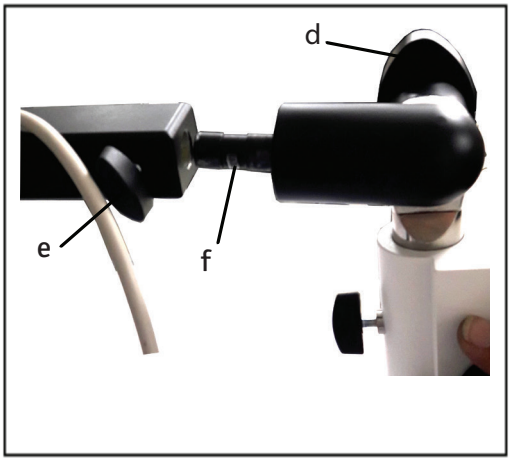


Fig. 3

Assembly

1. Unscrew the clamping knob (e) on the horizontal arm.
2. Loosen the UMS knob (d) and tilt the connecting pin (f) by 90° as shown in Fig. 3.
3. Push the connecting pin (f) in completely and tighten the knob (e) as shown in Fig. 4.

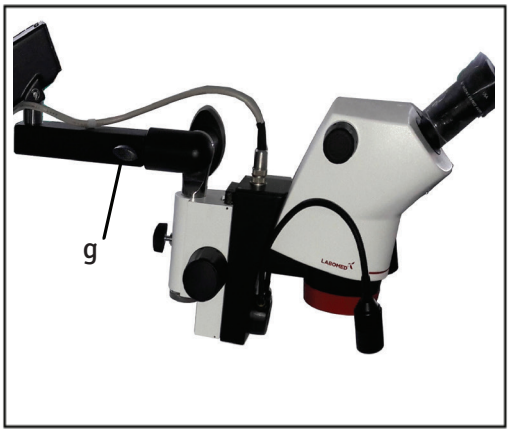


Fig. 4

Working Height Adjustment

1. Move the flexible arm to the height required for the object under inspection.
2. If necessary, tighten the fastening lever (h) to prevent unwanted height adjustment of the stereo microscope, as shown in Fig. 5.

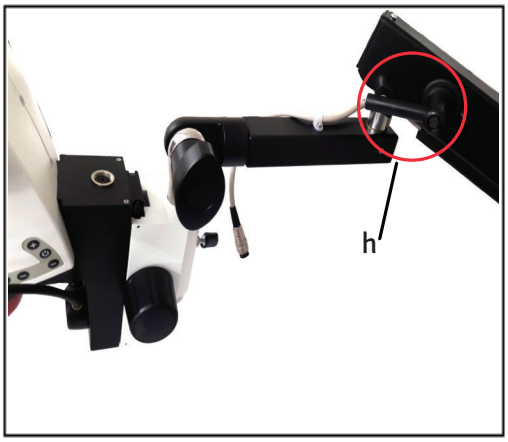


Fig. 5

14. SPRING TENSION ADJUSTMENT

Tool Requirement

- 13 mm socket wrench (not included in the delivery)

Factory settings

The spring force of the flexible arm is factory-set to approx. 2.7 kg and can be adjusted by turning the screw clockwise. See Fig. 8.

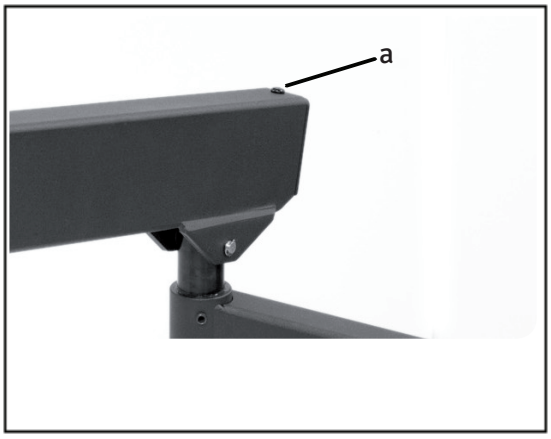


Fig. 6

Adjusting the Spring Force

1. Remove the socket screw (a) above the cover with a 2.5 mm Allen wrench, as shown in Fig. 6.
2. Remove the cover.
3. Unscrew the fastening lever (b) shown in Fig. 7.
4. Change the spring force with the screw inside, as shown in Fig. 8.

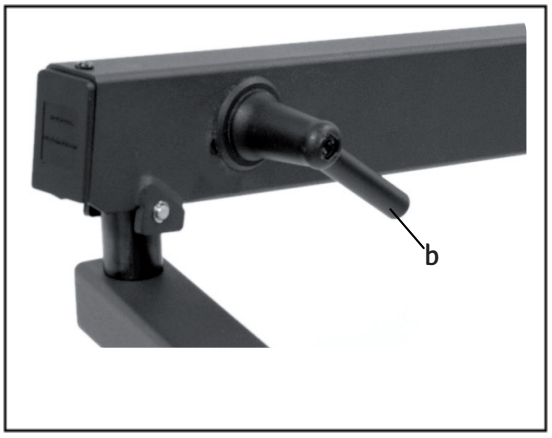


Fig. 7

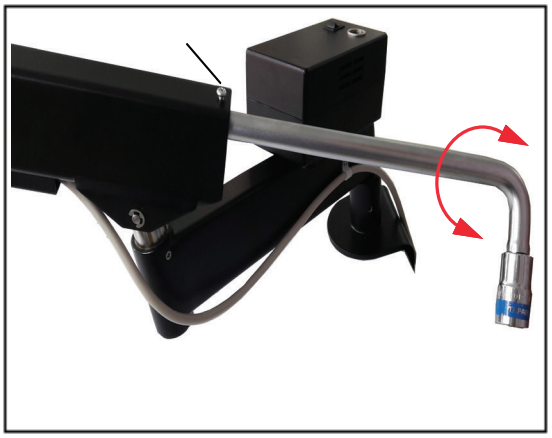
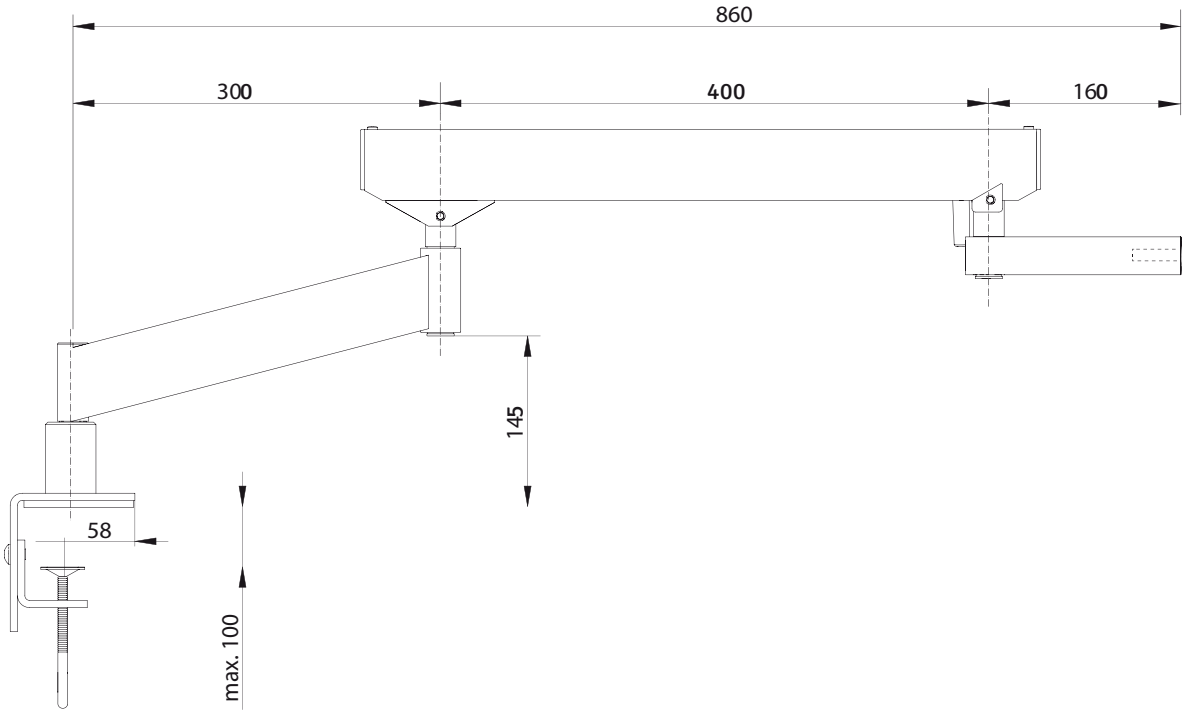
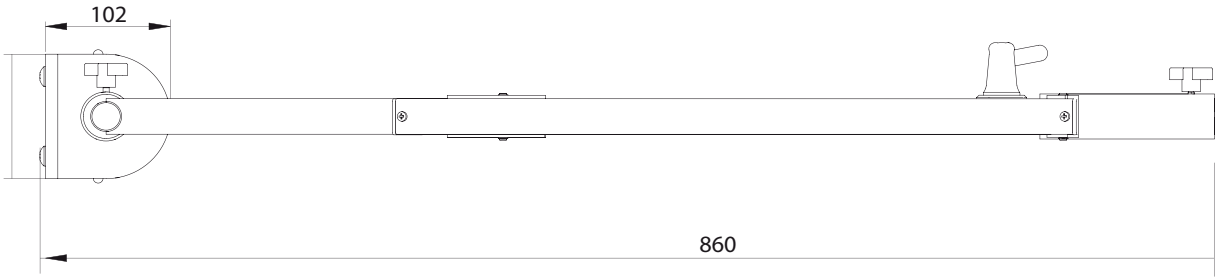


Fig. 8

15. DIMENSIONS

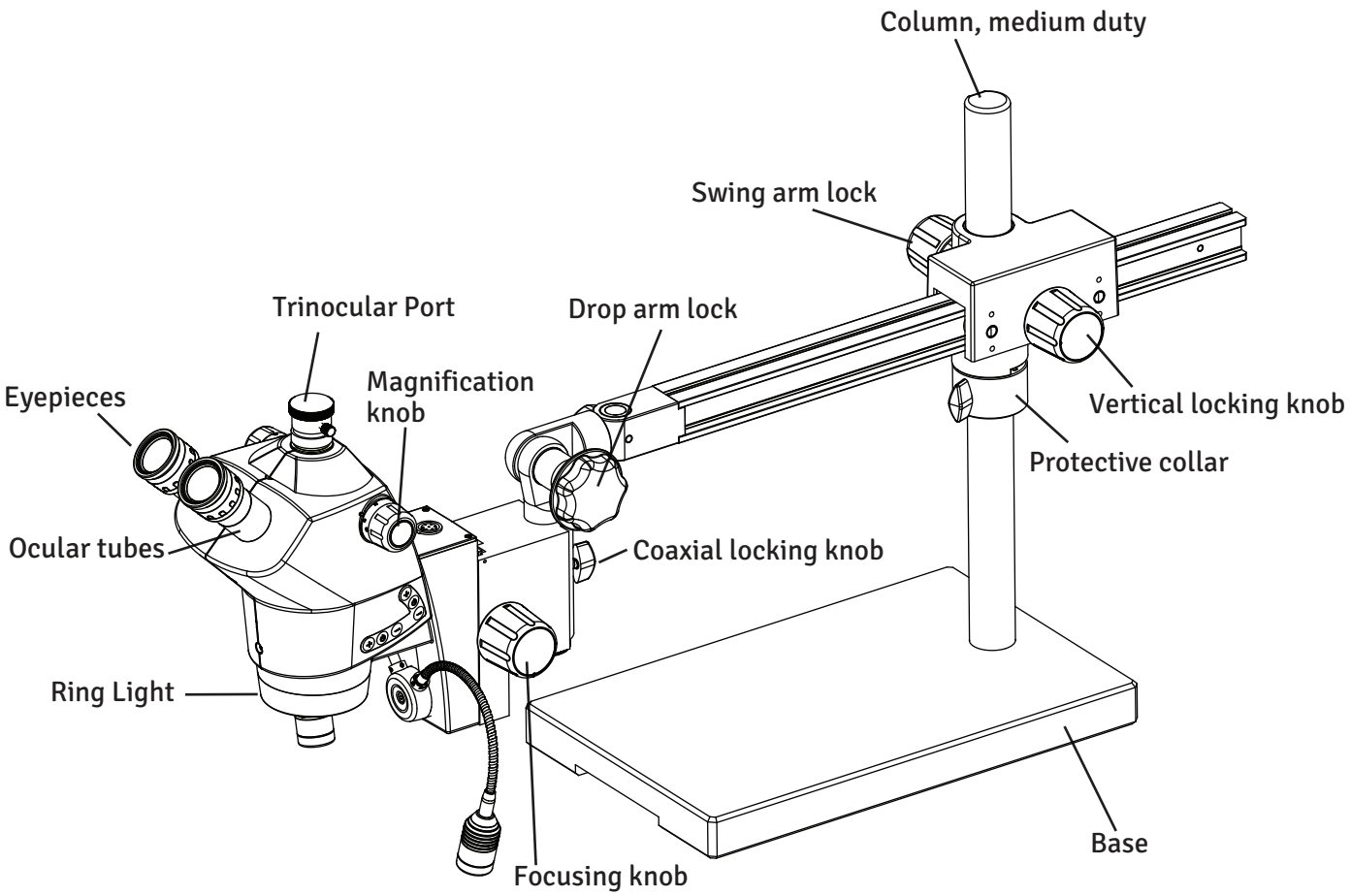




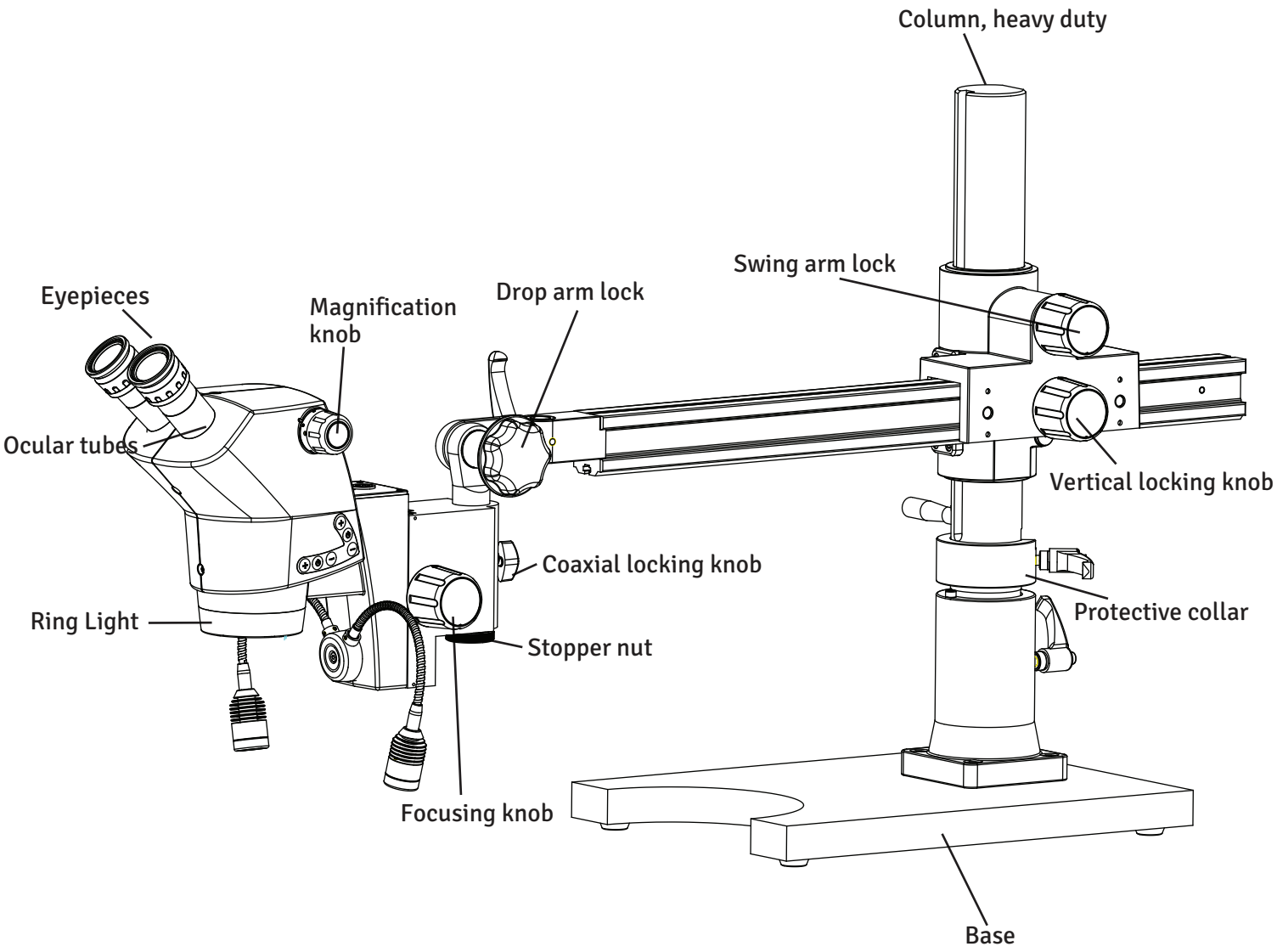
16. DIRECTIONS FOR USE

- This flexible arm stand may be used only by qualified persons.
- Always keep this manual available at the workplace.
- Carry out regular audits to ensure that trained and authorized users follow the required safety procedures.
- Explain the meaning of the warning signs and messages thoroughly to new users.
- Allocate responsibilities for commissioning, operation and maintenance, and ensure that they are observed.
- Inform your LABOMED representative immediately of any product defect that could potentially cause injury or harm.
- Accessories or cables other than those specified, except those sold by the manufacturer as replacement parts, are not recommended, as they may impair the immunity of the equipment or system.
- If this instrument is modified, appropriate inspection and testing must be carried out to ensure its continued safe use.
- Only original LABOMED replacement parts may be used to service the product.
- Modifications to this instrument are not allowed. Any modification to this unit must be authorized by LABOMED; otherwise serious injury to the operator may occur.

17A. LUXEO 6Z B/T (SWING ARM, MEDIUM DUTY)



17B. LUXEO 6Z B/T (SWING ARM, HEAVY DUTY)



18. DEFINITION OF PARTS

Adjustable trinocular port
Threaded port with adjustable length for attaching a digital or video camera.

Swing arm
Microscope stand that allows the head to be moved freely in various directions.

Continuous zoom
Microscope head with a knob that changes the magnification continuously over a range.

Diopter
Allows the focus to be optimized for each eye independently.

Focusing knob
Moves the microscope head vertically to bring the sample into focus.

Gooseneck illuminator
Illuminator, independent of the unit, with one or two flexible necks for directed lighting.

Magnification knob
Changes the magnification of the optics on a continuous zoom microscope.

Microscope head
Contains the objective lens, the eyepiece tubes and the prisms used for magnification.

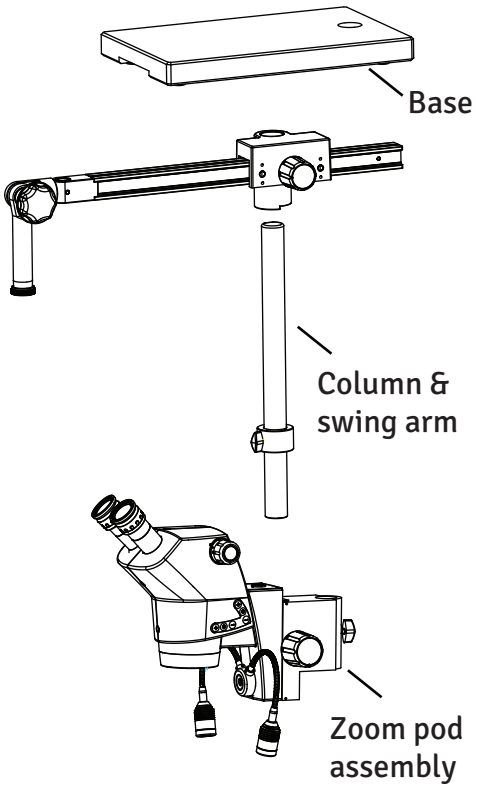
Ocular tube
Tube that holds the eyepieces or a camera in place.

Ring light
Illuminator that mounts directly on the objective and casts even light on the sample below.

Table stand
Stand that sits on the table and holds the head directly above the sample without moving.

19A. ASSEMBLY FOR MEDIUM DUTY

The Luxeo 6z swing arm is packed in 3 cardboard boxes:
Box 1: Base
Box 2: Column and swing arm assembly
Box 3: Zoom pod assembly
1. Open the box and take the base out of the carton after removing the EPE sheets.
2. Open the box marked “swing arm assembly”. The swing arm is packed in EPE cutouts, split into two parts:
i) Column
ii) Swing arm
3. Open the microscope box and take out the microscope and power supply.
4. Check the packing list to make sure that you have received all items. Note that the contents can vary depending on the model purchased.



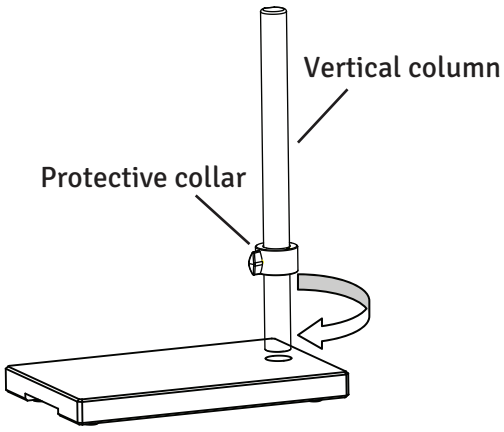


Fig. 1

5. Installing the swing arm stand.

5.1 Insert the vertical column into the base stand and screw the pole in securely with the 10 mm Allen wrench provided, as shown in Fig. 1.

5.2 Loosen the knob on the protective collar and adjust the collar to the correct height. Tighten the knob. See Fig. 1.

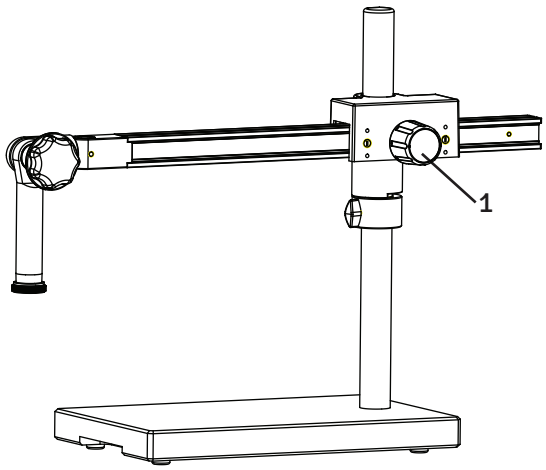
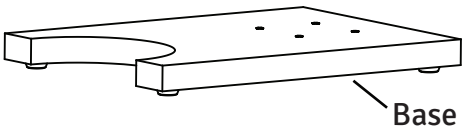


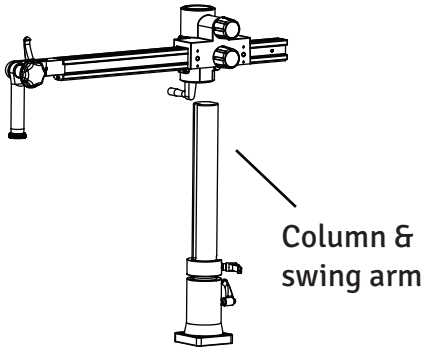
Fig. 2

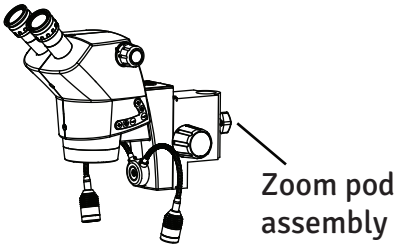
5.3 Loosen knob (1) and place the housing of the horizontal arm onto the vertical pillar. Rest the housing on the protective collar and set the arm as shown in Fig. 2. Tighten knob (1).

19B. ASSEMBLY FOR HEAVY DUTY

The Luxeo 6z swing arm is packed in 3 cardboard boxes:
Box 1: Base
Box 2: Column and swing arm assembly
Box 3: Zoom pod assembly
1. Open the box and take the base out of the carton after removing the EPE sheets.
2. Open the box marked “swing arm assembly”. The swing arm is packed in EPE cutouts, split into two parts:
i) Column
ii) Swing arm
3. Open the microscope box and take out the microscope and power supply.
4. Check the packing list to make sure that you have received all items. Note that the contents can vary depending on the model purchased.







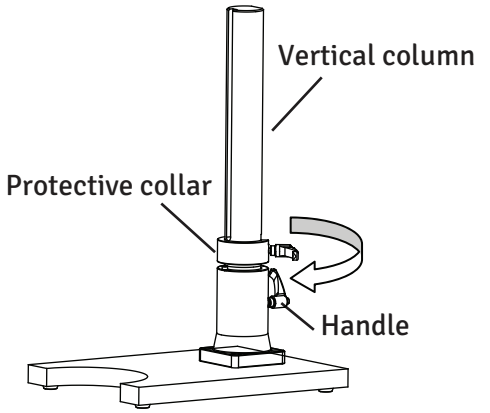


Fig. 1

5. Installing the swing arm stand.

5.1 Insert the vertical column into the base stand and screw the pole in securely with the handle, as shown in Fig. 1.

5.2 Loosen the knob on the protective collar and adjust the collar to the correct height. Tighten the knob. See Fig. 1.

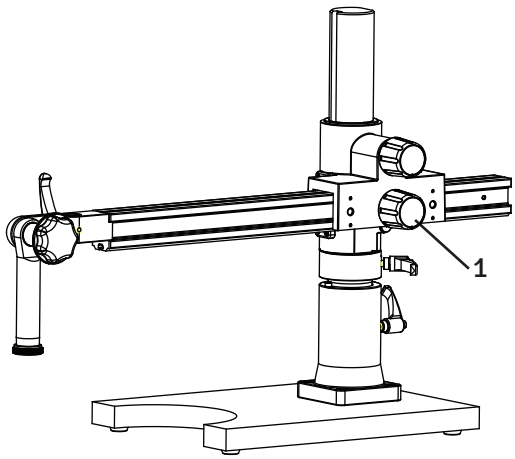


Fig. 2

5.3 Loosen knob (1) and place the housing of the horizontal arm onto the vertical pillar. Rest the housing on the protective collar and set the arm as shown in Fig. 2. Tighten knob (1).

20. ZOOM POD ASSEMBLY FOR MEDIUM/HEAVY DUTY

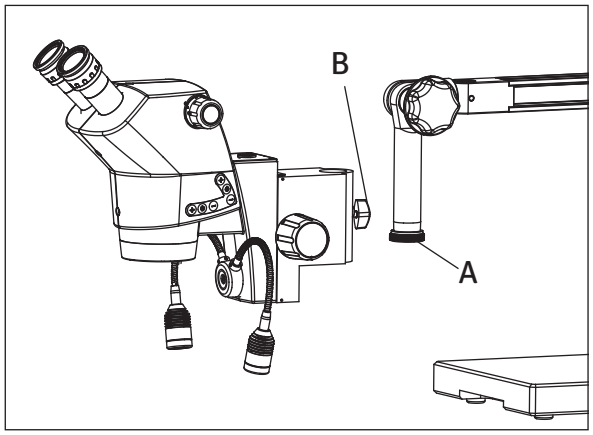


Fig. 3

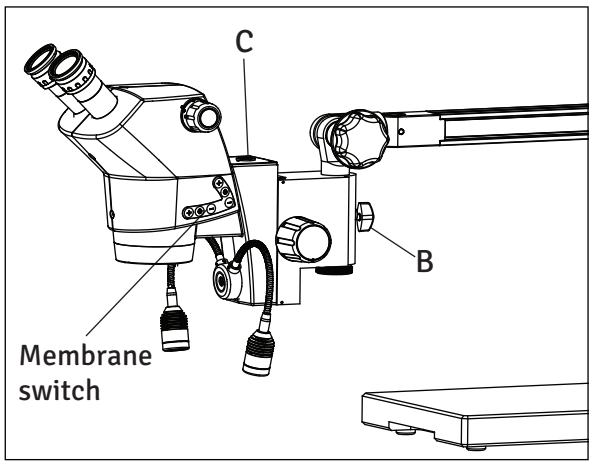


Fig. 3a

5.4 Remove stopper nut ‘A’, insert the head into the zoom spoodle and put stopper ‘A’ back in place. Tighten the lock knob (B) as shown in Fig. 3 and 3a.

5.5 On trinocular models, screw the photo port onto the top of the microscope head (trinocular C-mount port).

5.6 An external light source is included. Connect the light source to the microscope at port ‘C’ (Fig. 3a). Plug in the microscope and switch it on. If no light comes from the light source, adjust the membrane switch (Fig. 3a).

21. MAGNIFICATION CHART

Luxeo 6Z Greenough Zoom 6:1							
Objectives		Eyepieces					
		W.F. 10x/22		W.F. 16x/16		W.F. 20x/12	
	WD (mm)	Field Φ mm	Magnification x	Field Φ mm	Magnification x	Field Φ mm	Magnification x
None	110	4.40 to 27.50	50 to 8	3.2 to 20	80 to 12.8	2.4 to 15	100 to 16
0.5x	220	8.8 to 55	25 to 4	6.4 to 40	40 to 6.4	4.8 to 30	50 to 8
1.5x	50	2.93 to 18.30	75 to 12	2.13 to 13.33	120 to 19.2	1.6 to 10	150 to 24
2.0x	45	2.20 to 13.75	100 to 16	1.60 to 10	160 to 25.6	1.2 to 7.5	200 to 32

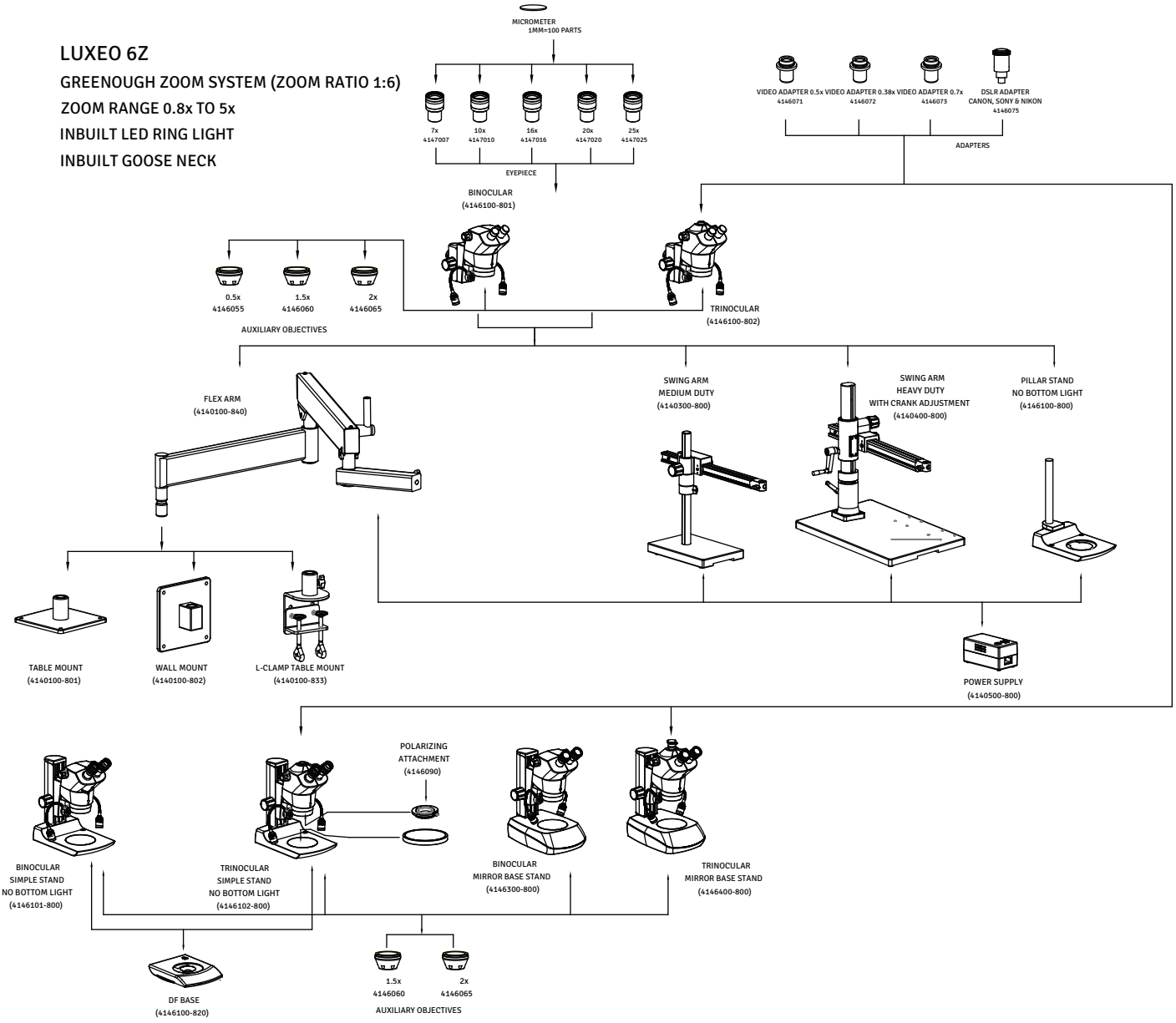
22. SPECIFICATIONS

Optical system	Greenough
Magnification	Zoom 6:1
Eyepieces	WF 10x/22 mm
Diopter correction	±5 D
IPD	50 - 75 mm
Viewing angle	Binocular, 45°
Working distance	110mm
Magnification range	8x to 50x
Object field diameter	4.4 to 27.50 mm
Eyeguards	Foldable
Illumination control	Incident light: LED ring light with arc and circular illumination options and intensity control Front angled arc illumination with a cluster of 11 LEDs Rear angled arc illumination with a cluster of 12 LEDs Circular illumination with a cluster of 23 LEDs Gooseneck for extra illumination Transmitted light: DF/BF (darkfield/brightfield) base with on/off control

23. ELECTRICALS

Input rating	100–240 V / 50–60 Hz
Output rating	24 V, 2.7 A
Fuse rating	250 V / 1.4 A
Voltage fluctuation	±10% (fluctuation of more than ±10% may damage the instrument). In regions with high voltage fluctuation, voltage stabilization is recommended for a longer instrument life.
Internal fuse	1.4 A / 250 V
Fuse rating	250 V / 1.4 A
Operating environment	Altitude 2000m max. Temperature 0° - 40°C (indoor use only) Relative humidity 85% max. (no condensation) Pollution level Degree 2
Storage environment	Temperature 20° to 60°C Relative humidity 90% max. (no condensation)
Protection class	Class I
Power cord	Use only the recommended power supply cord. Using the wrong power cord could result in danger or fire. Protection class I equipment must be connected to a PE (protective earth) terminal.

24. SYSTEM DIAGRAM



25. SUMMARY OF THE OBSERVATION PROCEDURE

Set the main switch to “ON”

↓

Switch on the incident and/or transmitted illumination as required. The incident illumination can be controlled with the membrane switches on the observation head.

↓

Place the specimen on the stage

↓

Bring the specimen into focus

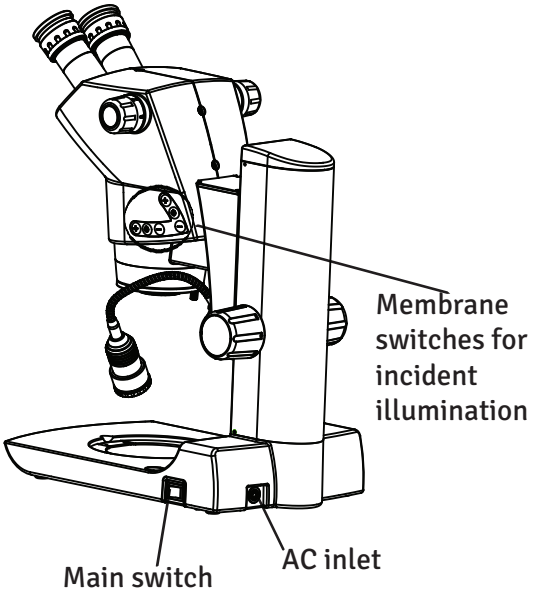
↓

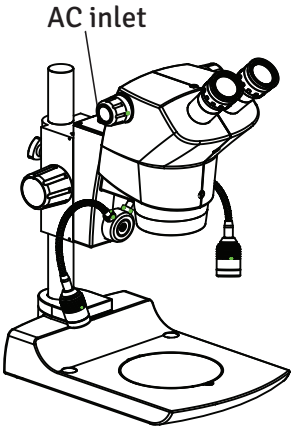
Adjust the observation tube and eyepieces
Adjust the interpupillary distance
Adjust the diopter setting

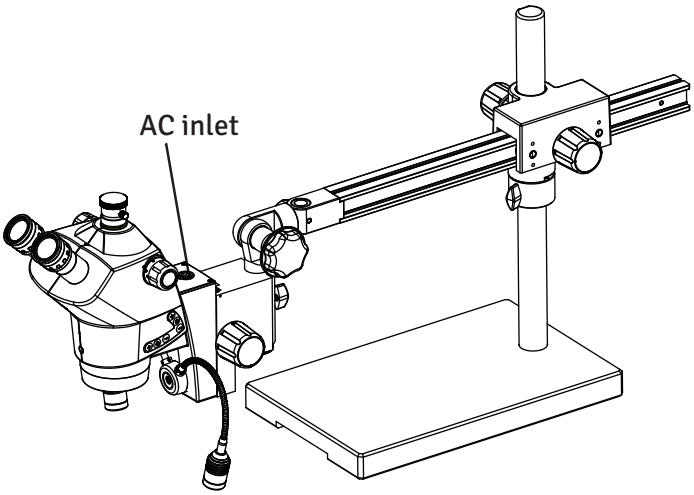
Adjust the incident light brightness

↓

Observe specimen







26. TROUBLESHOOTING GUIDE

Under certain conditions, the performance of the unit may be affected by factors other than defects. If a problem occurs, review the following list and take remedial action as needed. If you cannot solve the problem after checking the entire list, contact LABOMED for assistance.

OBSERVATION	CAUSE	REMEDY
Uneven brightness in the field of view	The incident illumination is low. The transmitted illumination is blocked by the specimen.	Increase the incident illumination. Use an opaque specimen or move the specimen. Use incident light.
Not all LEDs light up in incident light.	The wrong LED setting is selected.	Press the button to light all LEDs, the 11 front LEDs or the 12 rear LEDs.
The LEDs do not light up.	The power cord is not connected. The LEDs are not switched on. The power button is not switched on. The fuse is blown.	Check the power cord and connect it securely. Switch on the LEDs. The switch indicator lights up when the power is on. Check the fuse. If it is blown, replace it with a new fuse. Observe the caution!
The specimen cannot be focused.	The specimen is not properly focused. The specimen is too small. The specimen is too large.	Focus on the specimen at the lowest magnification first. Obtain the best focus with the coarse adjustment knob. The specimen is too small: micro-dissection slides cannot be viewed with a stereo microscope. The specimen is too large to focus: use a smaller specimen.

LABOMED
ideas for vision

Manufacturer: Labotech Microscopes India Pvt. Ltd.
Sales and Distribution:
Labo America Inc.
920 Auburn Court
Fremont, CA
94538
U.S.A.

Phone: 510-445-1257
Email: sales@laboamerica.com
www.laboamerica.com

EU REP.

Labomed Europe b.v.
Essebaan 50
2908 LK Capelle aan den IJssel
The Netherlands
Phone: +31-10-458-4222,
E-mail: info@labomedeurope.com

CE A28240 ISO 13485:2016

c UL us
LISTED
LABORATORY EQUIPMENT
OGTK/OGTK7