

OPTIKA

M I C R O S C O P E S

I T A L Y

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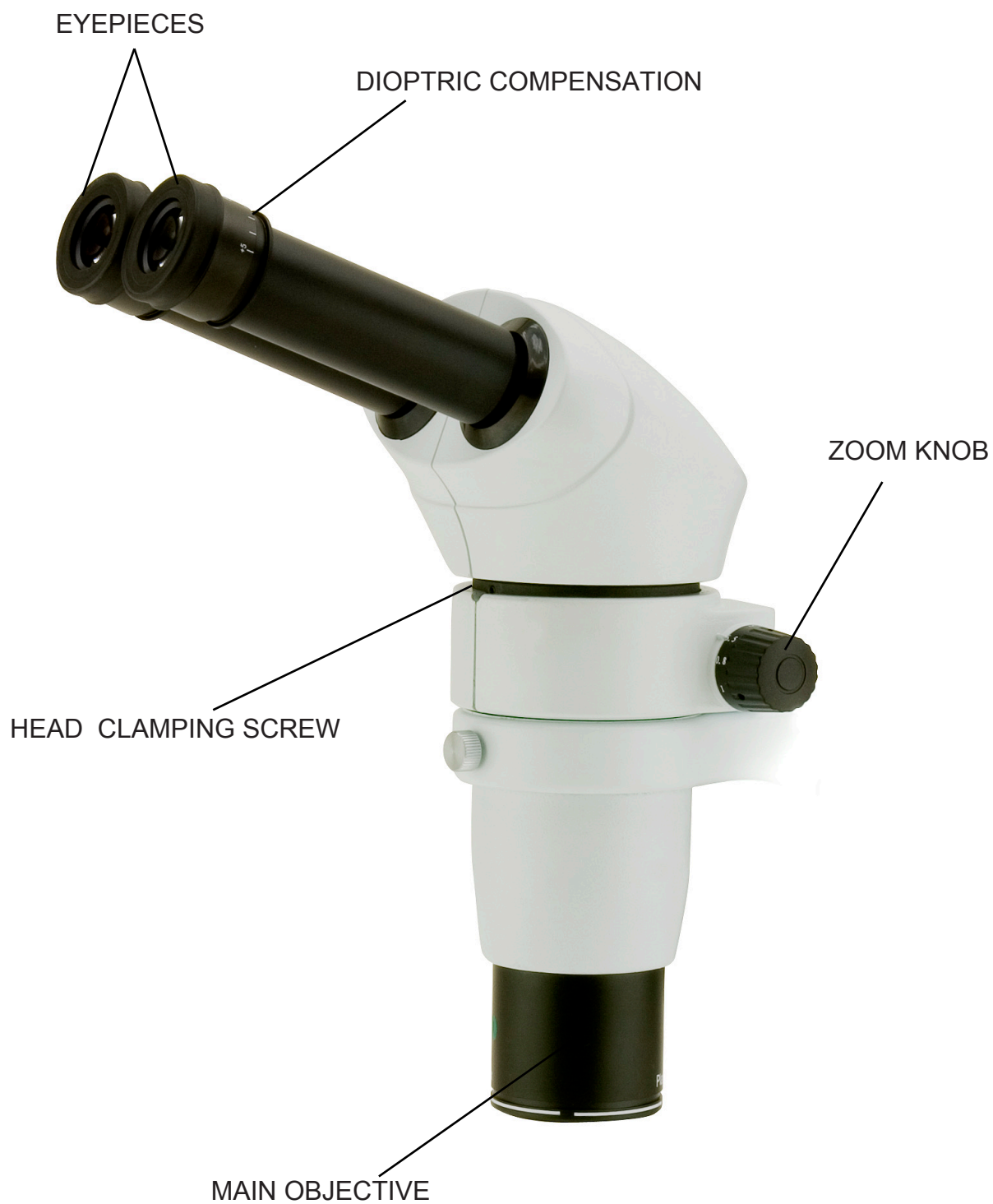
OPERATION MANUAL

OPTIKA MICROSCOPES - ITALY

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The OPTIKA zoom stereo microscopes SZP series are high performance Galileian Common Main Objective stereo microscopes with continuous zoom system. Total magnification varies from 2,4x to 320x depending on the eyepieces and additional lenses used. It is the best equipment to examine all types of gross materials in three dimensions for industrial, biological and educational applications.

With the bilateral zoom knob, the user can change the magnification in a factor of 6, 8 or 10 with perfect parfocality (focus is always maintained during the change of magnification) and parcentering (magnification changes in a concentric pattern).

There are, at the moment, 3 models in the series:

SZP-6: Binocular stereozoom head. Zoom ratio: 6:1

SZP-8: Binocular stereozoom head. Zoom ratio: 8:1

SZP-10: Binocular stereozoom head. Zoom ratio: 10:1



SZP-6



SZP-8



SZP-10



3.1 Safety Precaution

1. Carefully open the box, avoid the accessories, like lens, dropping to ground and being damaged.
2. Do keep the instrument out of direct sunlight, high temperature or humidity, dusty and easy shaking environment. Make sure the stage is smooth, horizontal and firm enough.
3. To prevent the microscope body from turning over, its pivot angle must be limited to 30°.
4. A microscope is a precision instrument. Handle it with care and avoid subjecting it to sudden or severe impact.
5. Do not disassemble any part of the microscope.

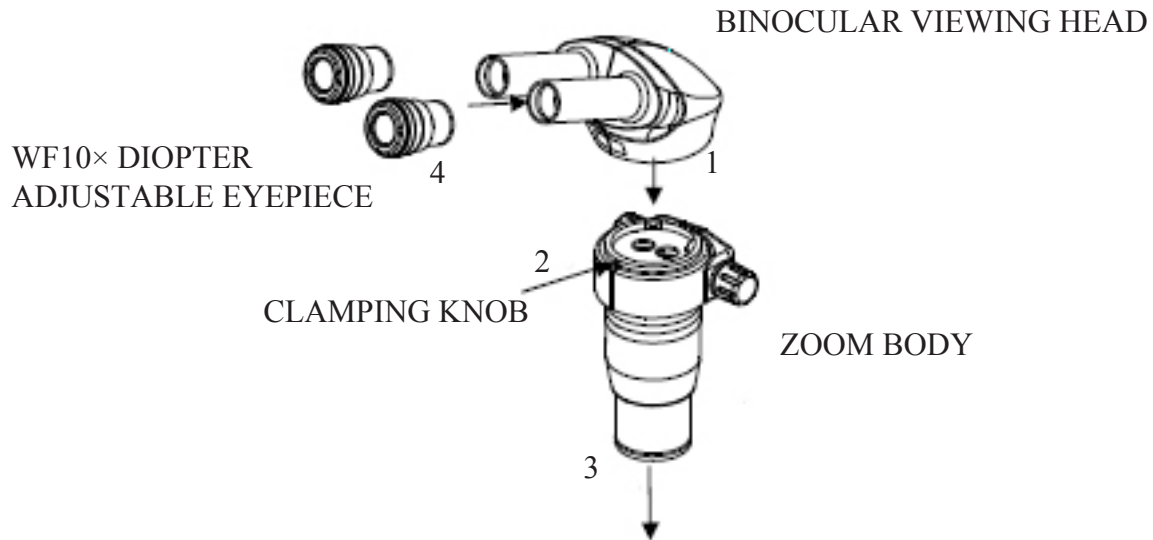
3.2 Maintenance and Storage

1. All the lenses have been well checked and adjusted. It is not suggested to disassemble them yourself.
2. The binocular viewing head and focusing unit have a compact and precise frame; please don't disassemble them.
3. Keep the instrument clean, wipe dust regularly, and be attention to avoid contaminating the optical elements especially.
4. The contaminations on the prism, as fingerprint and oil, could be gently wiped with a piece of soft cloth or tissue paper, gauze which has been immersed in pure alcohol or ether. (Note that the alcohol and ether are highly flammable, do keep them away from the fire or potential sources of electrical sparks, and use them in a drafty room as possible as you can.)
5. Do not attempt to use organic solvents to clean the microscope components other than the glass components. To clean them, use a lint-free, soft cloth slightly moistened with a diluted neutral detergent.
6. If the microscope is splashed by liquid during using, cut off the power at once, and wipe up the moisture.
7. Do not disassemble any parts of the microscope, which will affect the function or decline the performance of the microscope.
8. Place the instrument in a cool, dry position. When not using the microscope, keep it covered with a dust cover.



4.0 ASSEMBLY

- 4.1** The diagram below shows how to assemble the various modules. The numbers indicate the order of assembly.
- When assembling the microscope, make sure that all parts are free of dust and dirt, and avoid scratching any parts or touching glass surfaces.
 - Point 3: insert the head into the holder of your stand.





4.2 Detailed Assembly Procedure

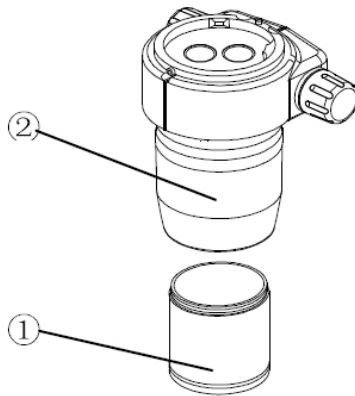


Fig.1

4.2.1 Mounting binocular viewing head (Fig.1, Fig.2)

1. Rotate the objective (1) into the objective mount thread on the lower end of the zoom body (2), as (3) in Fig.2.

2. Aligning the positioning pin of the zoom body (3) to the positioning groove on the binocular viewing head (4), insert the dovetail mount at the bottom of the viewing head into the mounting port on the zoom body (3), and tighten the viewing head clamping screw (5) with provided hexagonal driver.

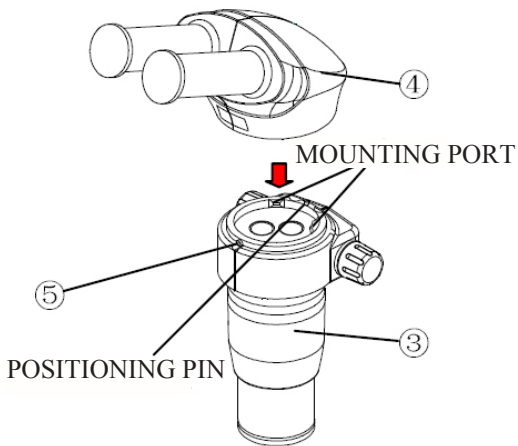


Fig.2

Note:

Working Environment Requirement:

1. Ambient temperature: 5°C to 40°C. (41°F to 104°F), Maximum R.H: 85%.
2. High Temperature will result in a mildewing, moist and even ruinous instrument.
3. Avoid placing the instrument in a dusty environment. When ending your microscope operation, please cover it with the dust cover.
4. Lay the microscope in a plan and stable position, please.

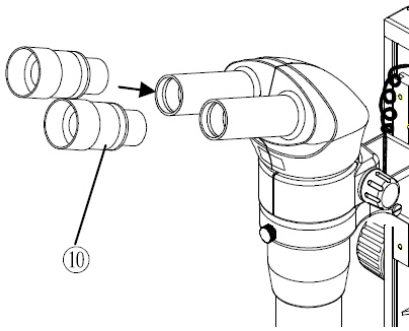


Fig.4

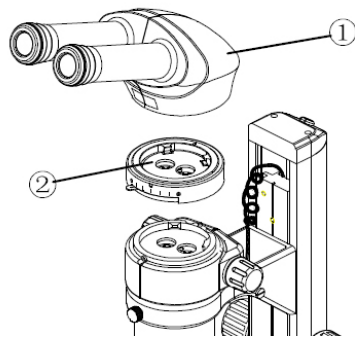


Fig.8

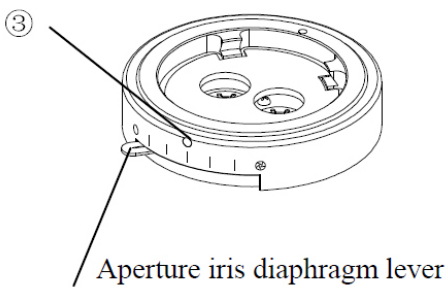


Fig.9

4.2.2 Mounting binocular head

Insert the binocular head and zoom body assembly into the bracket of your stand.

4.2.3 Mounting eyepieces (Fig.4)

1. Remove the eyepiece dust caps and gently insert two adjustable eyepieces (10) into the eyepiece sleeves until they stop, as in Fig.4.

2. Using the Eye Cups

When Wearing Eyeglasses:

Use with eye cups in their normal folded-down position. This will prevent eyeglasses from being scratched by the eyepiece.

When Not Wearing Eyeglasses:

Extend the folded cups. This makes observation easier by preventing the inverse incidence of light from between the eyepiece and your eyes.

4.2.4 Mounting aperture iris diaphragm attachment (Fig.8, Fig.9)

○ Aperture iris diaphragm attachment is optional.

1. Use the provided hexagonal driver to loose the clamping bolt and remove the binocular viewing head (1).

2. Mounting the aperture iris diaphragm attachment (2) to the top end of the zoom body.

3. Mounting the binocular head into the aperture iris diaphragm attachment and tighten the clamping bolt (3).

Adjusting aperture iris diaphragm

- The aperture iris diaphragm adjustment can increase the image contrast and focus depth.
- The size of aperture iris diaphragm can be adjusted. Switch the lever to left to open the aperture iris diaphragm; to the right, to close the aperture iris diaphragm. Check the effect during observation.
- Do not close the aperture iris diaphragm too much, or it will decrease the resolution and lead to lack of illumination.
- Closing the aperture iris diaphragm to the minimum state will result in faintness in field of view. In this case, adjust the aperture iris diaphragm to the half open state.
- Closing the aperture iris diaphragm to the minimum state and increase the magnification of the zoom body will result in lack of illumination around circumference of field of view.



5.1 Adjusting Binocular Viewing Head

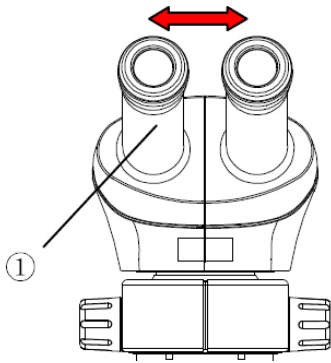


Fig.10

5.1.1 Adjusting interpupillary distance (Fig.10)

Different users have different interpupillary distances. So when users change, do the interpupillary distance adjustment.

While looking through the eyepieces, hold the left and right of the binocular assembly (1) and adjust the eyepieces by opening or closing them for binocular vision until the left and right fields of view coincide completely.

5.1.2 Adjusting diopter ring (Fig.11)

1. Set the diopter rings of both eyepieces to "0" position. (Do this when users change, because different users have different diopters.)

2. Place an easy-to-observe specimen on the stage plate.

3. Rotate the zoom body knob (3) to the highest magnification 5× (or 6.4×, or 10×), and turn the focusing knob (4) to focus the specimen (this feature may change depending on the model of the stand).

4. Rotate the zoom body knob (3) to the lowest magnification 0.8×, looking only into the left eyepiece, adjust the diopter ring on left eyepiece to focus the specimen. Then do the same thing for the right one.

5. Repeat item 3 and 4 until the specimen image can always focus without any adverse effect of the changes of magnification on the definition of the image.

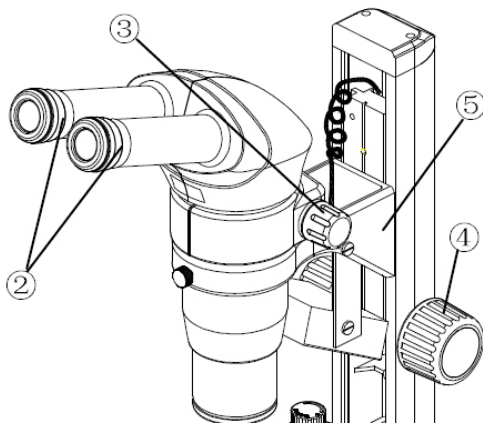


Fig.11

SAFETY PRECAUTION:

1. After the equipment has been used in an observation of a specimen that is accompanied with a potential of infection, clean the parts coming in contact with the specimen to prevent infection.
2. Moving this microscope is accompanied with the risk of dropping the specimen and causing infections. Be sure to remove the specimen before moving this product.
3. Move the microscope with both hands; one hand catches the arm, and the other hold the base.



6.1 Photography and Video Attachment Assembly

(Fig.16 ~ Fig.19)

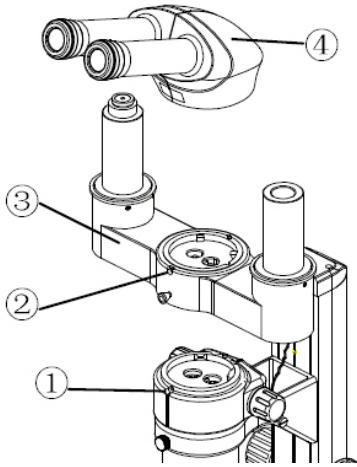


Fig.16

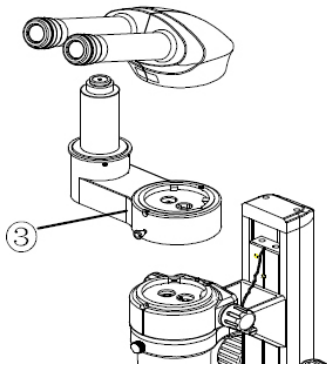


Fig.17

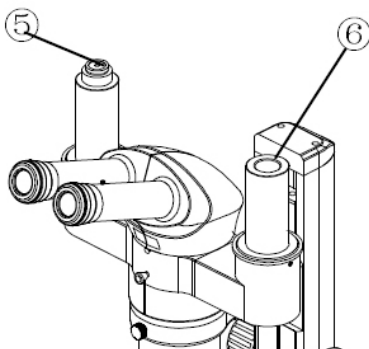


Fig.18

- The optional light splitter unit (3) makes it possible to perform photography or video observation.

1. Loose the bolt (1) with provided hex wrench and remove the binocular head (4) away from the zoom body.

2. Mount the light splitter unit (3) onto the zoom body and fix it with bolt (1).

3. Mount binocular head (4) onto the light splitter unit with bolt (2), as shown in Fig.18.

4. Mount the camera head (7) into the C mount (5) (both 1× and 0.5× available) of the light splitter unit. Mount the adapter (9) onto the transfer tube (6) on the splitter unit ,as shown in Figure18 and Figure19.

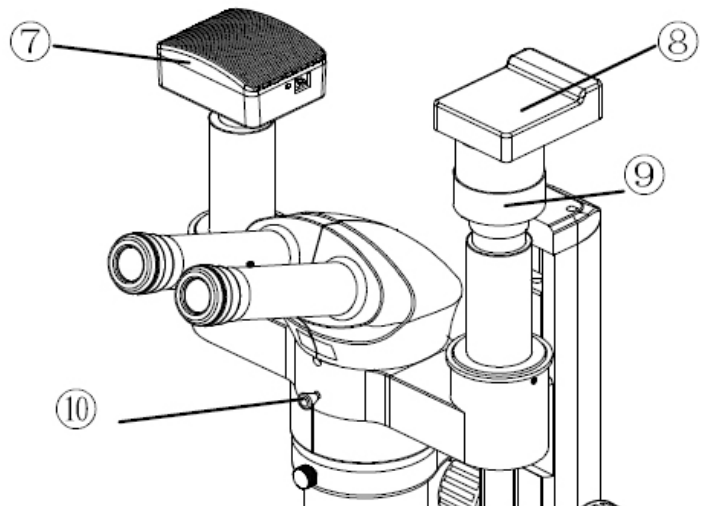


Fig.19



6.2 The Magnification of Photography and Video

- Magnification of video= Magnification of main objective X Magnification of zoom body X magnification of C mount.
- When using upright illumination system, the magnification of photography= Magnification of main objective X Magnification of zoombody X Magnification of adapter X 1.5

6.3 Switching the Light Path

Pull out the light switching lever (10) to open the light path, as in figure 19.

Light flux ratio: Binocular: photography=8:2.

7.0 SPECIFICATION

MODEL NO.	SZP-6	SZP-8	SZP-10
PARAMETERS			
ZOOM RATIO	1:6	1:8	1:10
OBJECTIVE MAGNIFICATION	0.8× ~ 5×	0.8× ~ 6.4×	0.8× ~ 8×
EYEPIECE	Φ22 10×WF Diopter adjustable		
BINOCULAR VIEWING HEAD	Inclined at 20°, interpupillary distance range: 50~75mm		
WORKING DISTANCE	80mm		

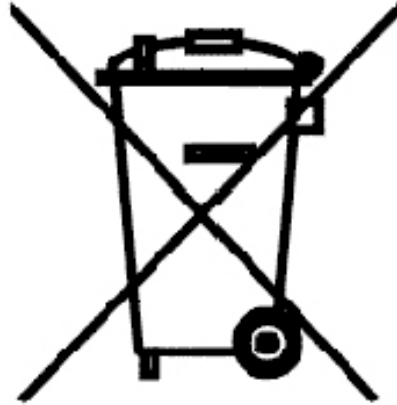


Under certain conditions, performance of this unit may be adversely affected by factors other than defects. If a problem occurs, please review the following list and take remedial action as needed. If you cannot solve the problem after checking the entire list, please contact your local franchiser for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

PROBLEM	CAUSE	SOLUTION
1. Incomplete binocular vision.	Interpupillary distance is not correctly adjusted.	Adjust it correctly
	Diopter adjustment is incomplete.	Complete diopter adjustment
2. Dirt is visible in field of view	Dirt on specimen	Clean specimen
	Dirt on eyepiece	Clean eyepiece
3. The visibility of the image is poor.	Dust on objective front lens.	Clean lens surface
4. Specimen image blurs when zoom magnification is changed.	Diopter ring is not correctly adjusted.	Adjust it correctly.
	Not in complete focus on specimen.	Focus specimen correctly at a high magnification.



Art.13 Dlsg 25 July 2005 N°151. “According to directives 2002/95/EC, 2002/96/EC and 2003/108/EC relating to the reduction in the use of hazardous substances in electrical and electronic equipment and waste disposal.”



The basket symbol on equipment or on its box indicates that the product at the end of its useful life should be collected separately from other waste.

The separate collection of this equipment at the end of its lifetime is organized and managed by the producer. The user will have to contact the manufacturer and follow the rules that he adopted for end-of-life equipment collection. The collection of the equipment for recycling, treatment and environmentally compatible disposal, helps to prevent possible adverse effects on the environment and health and promotes reuse and/or recycling of materials of the equipment. Improper disposal of the product involves the application of administrative penalties as provided by the laws in force.



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