

SFX/STEREO Series

INSTRUCTION MANUAL

Model
SFX-31
SFX-33
SFX-51
SFX-91
SFX-91D
ST-50Led

Ver. 2.2 2022



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1. Warning

This microscope is a scientific precision instrument designed to last for many years with a minimum of maintenance. It is built to high optical and mechanical standards and to withstand daily use. We remind you that this manual contains important information on safety and maintenance, and that it must therefore be made accessible to the instrument users. We decline any responsibility deriving from incorrect instrument use that does not comply with this manual.

2. Safety Information



Avoiding Electrical Shock

Before plugging in the power supply, make sure that the supplying voltage of your region matches with the operation voltage of the equipment and that the lamp switch is in off position. Users should observe all safety regulations of the region. The equipment has acquired the CE safety label. However, users have full responsibility to use this equipment safely. Please follow the guidelines below, and read this manual in its entirety to ensure safe operation of the unit.

3. Package content

3.1 SFX-Series



① Microscope body

② Microscope base

③ Eyepiece shields

④ Rechargeable batteries (for rechargeable models)
(may be not included)

⑤ Dust cover

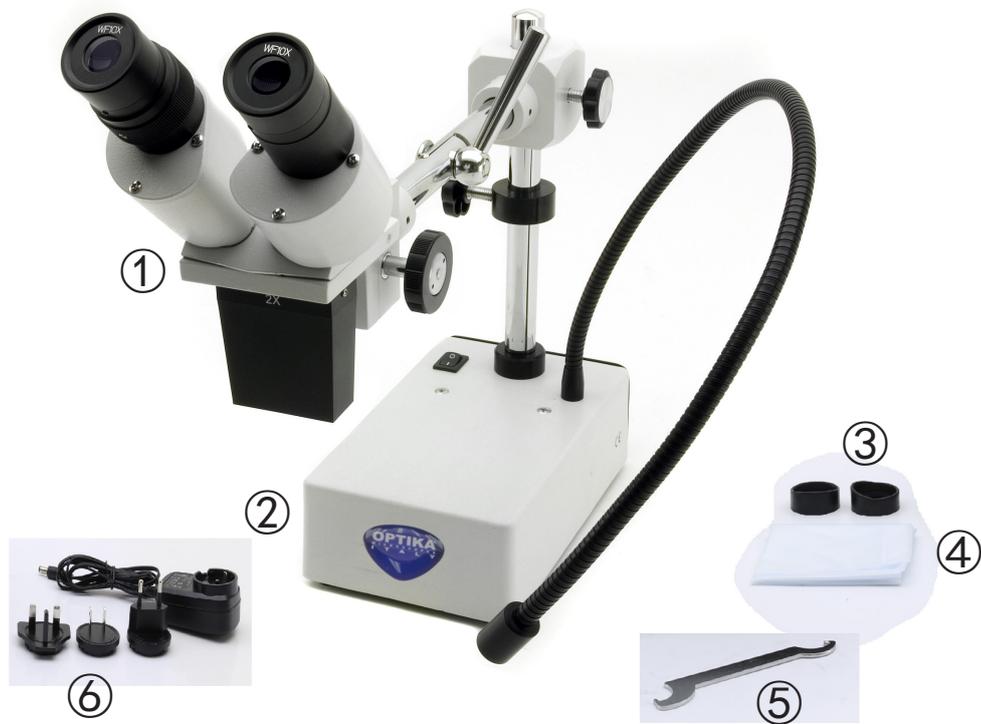
⑥ Frosted glass plate

⑦ Tension adjustment tool

⑧ Power supply / power cord

* Only for SFX-91D: USB cable

3.2 ST-50LED



- ① Microscope body
- ② Microscope base
- ③ Eyepiece shields

- ④ Dust cover
- ⑤ Tension adjustment tool
- ⑥ Power supply

4. Unpacking

The microscope is housed in a moulded Styrofoam container. Remove the tape from the edge of the container and lift the top half of the container. Take some care to avoid that the optical items (objectives and eyepieces) fall out and get damaged. Using both hands (one around the arm and one around the base), lift the microscope from the container and put it on a stable desk.



Do not touch with bare hands optical surfaces such as lenses, filters or glasses. Traces of grease or other residuals may deteriorate the final image quality and corrode the optics surface in a short time.

5. Intended use

Standard models

For research and teaching use only. Not intended for any animal or human therapeutic or diagnostic use.

IVD Models

Also for diagnostic use, aimed at obtaining information on the physiological or pathological situation of the subject.

6. Symbols and conventions

The following chart is an illustrated glossary of the symbols that are used in this manual.



CAUTION

This symbol indicates a potential risk and alerts you to proceed with caution.

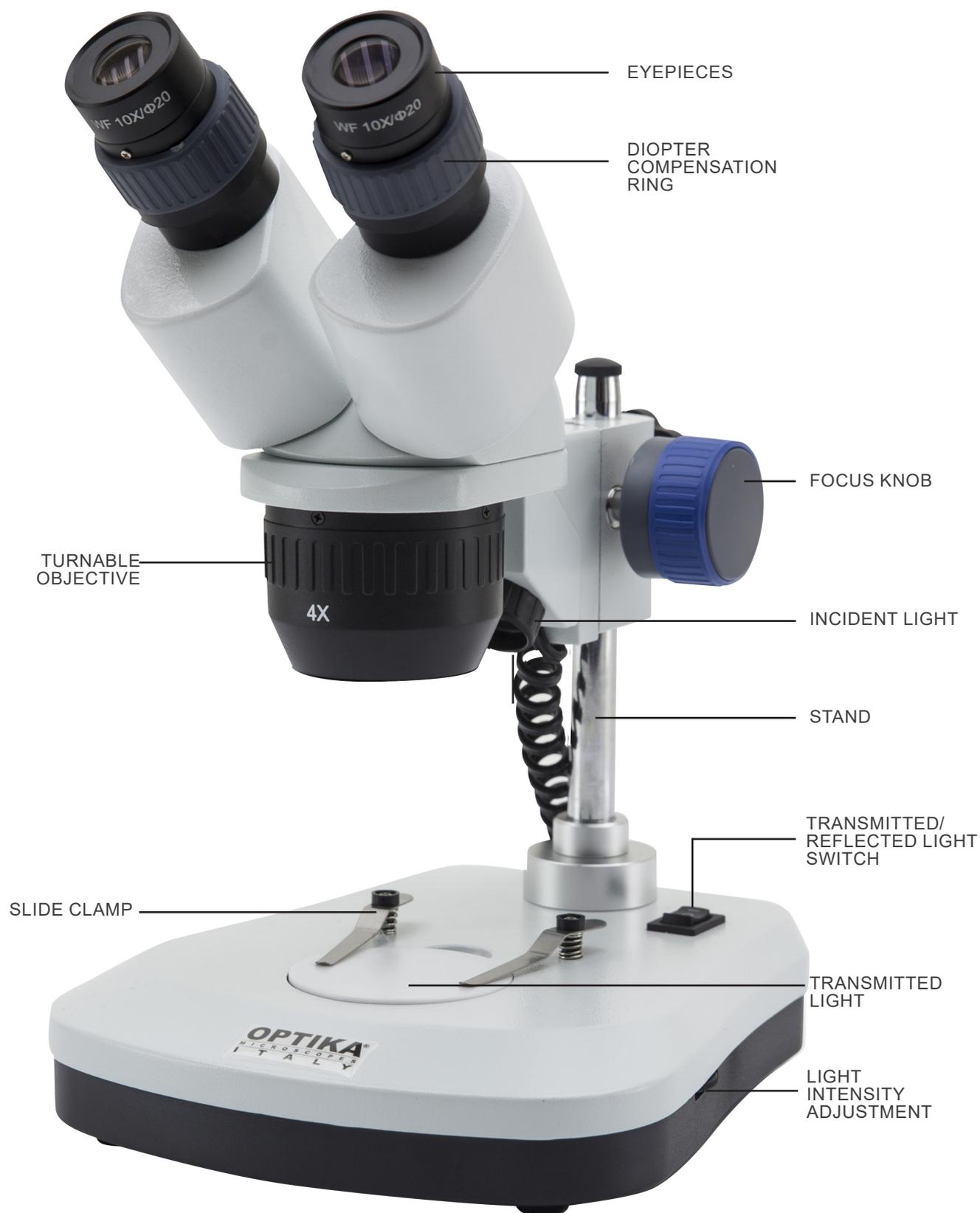


ELECTRICAL SHOCK

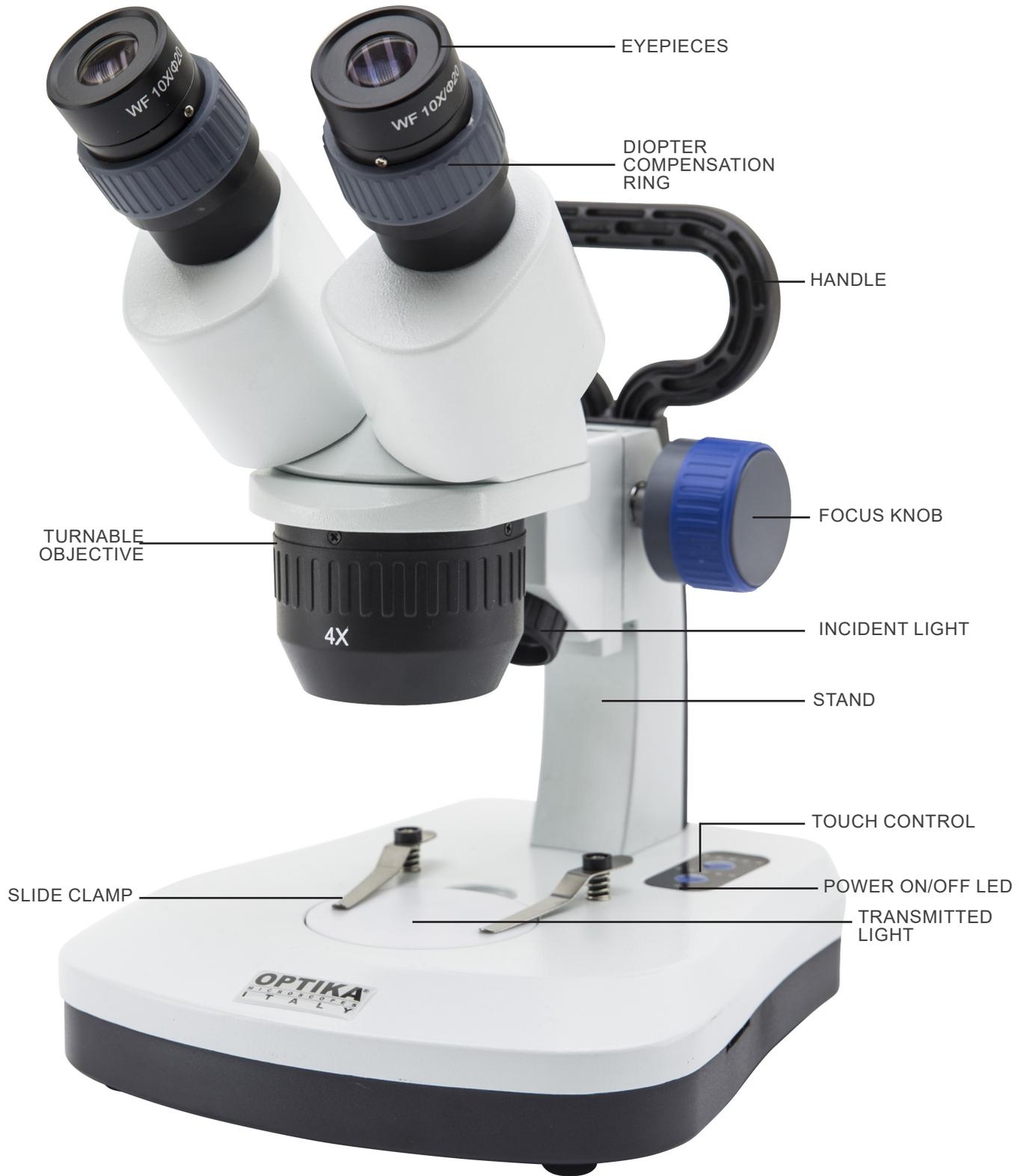
This symbol indicates a risk of electrical shock.

7. Instrument description

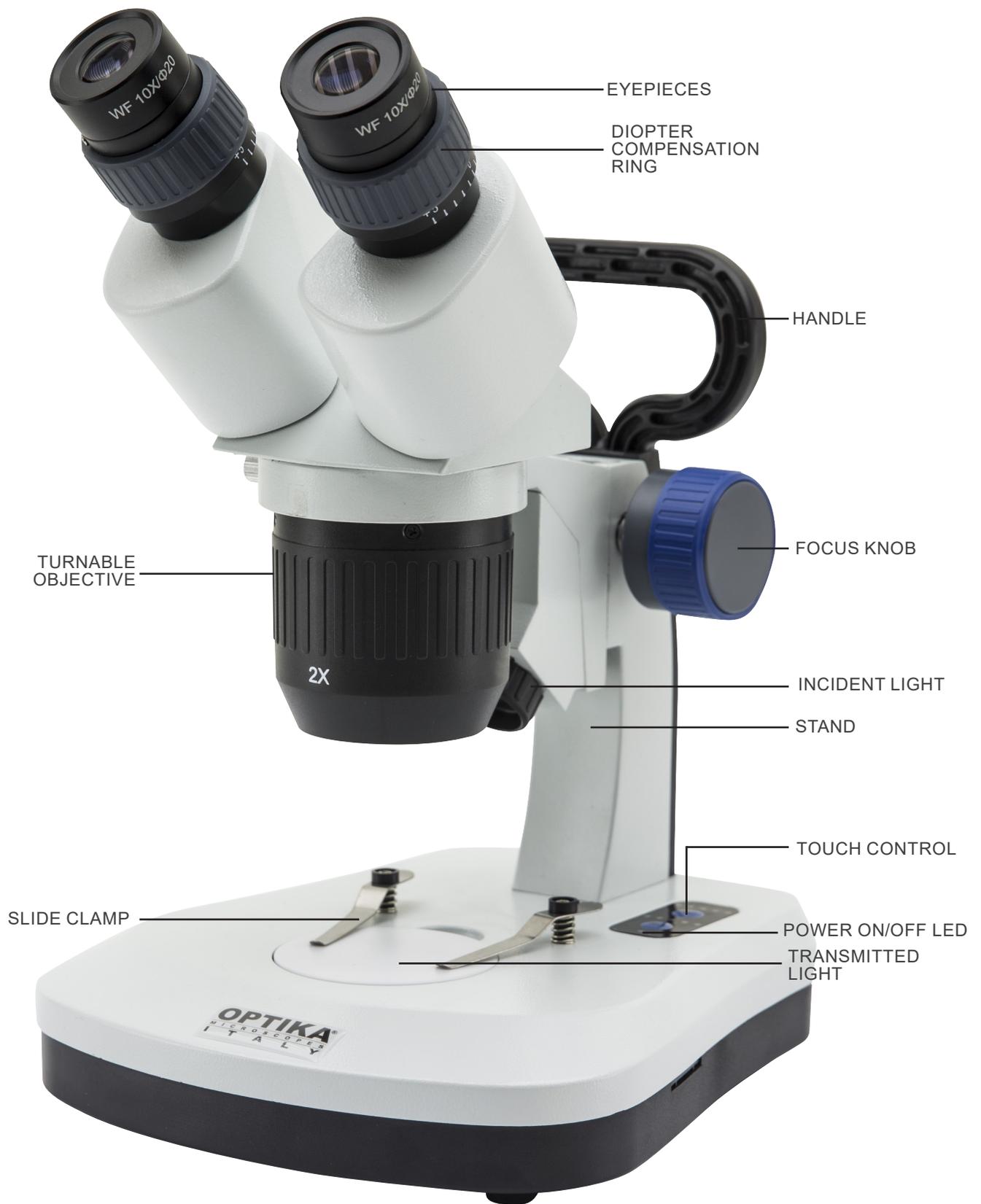
7.1 SFX-31



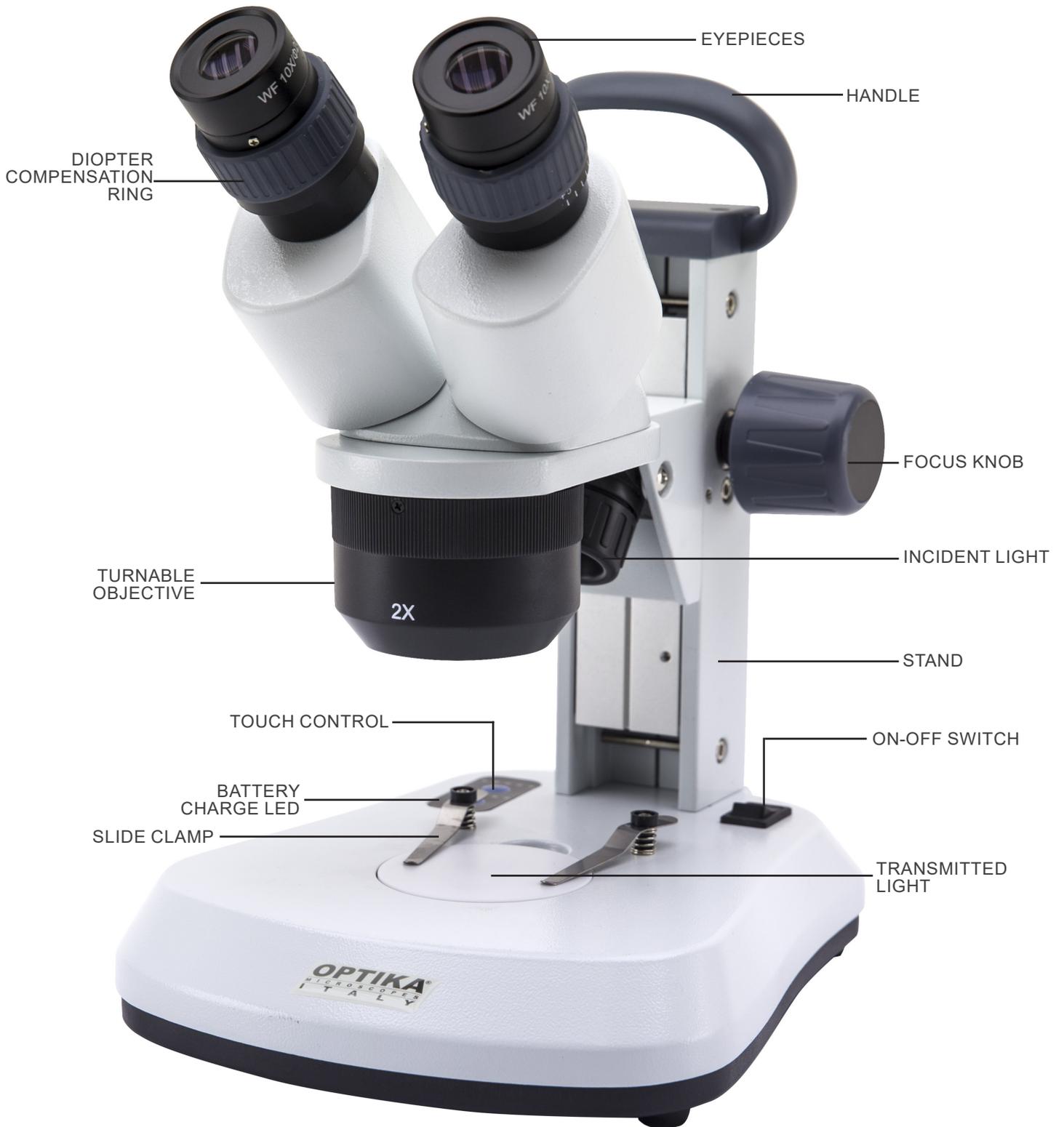
7.2 SFX-33



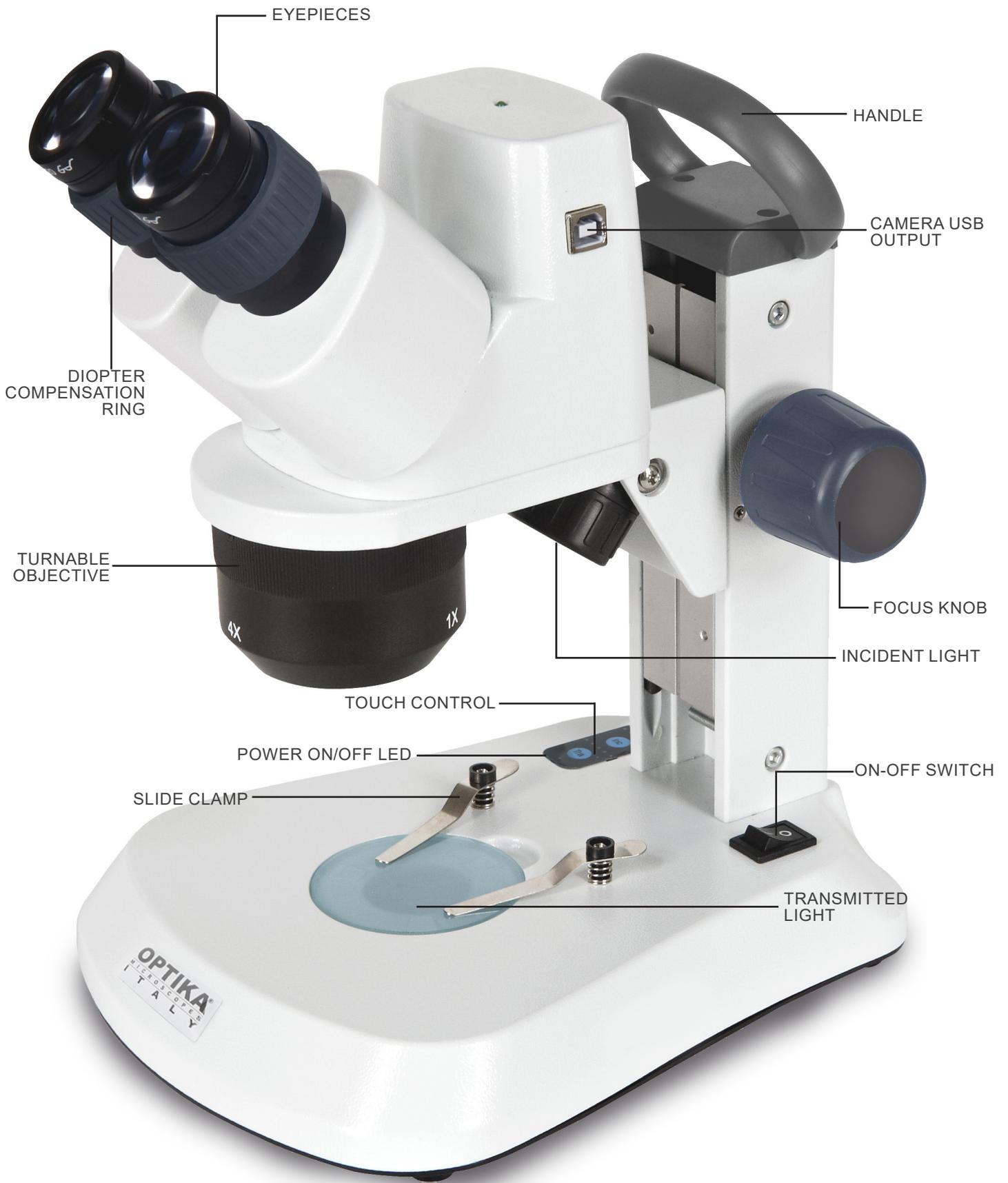
7.3 SFX-51



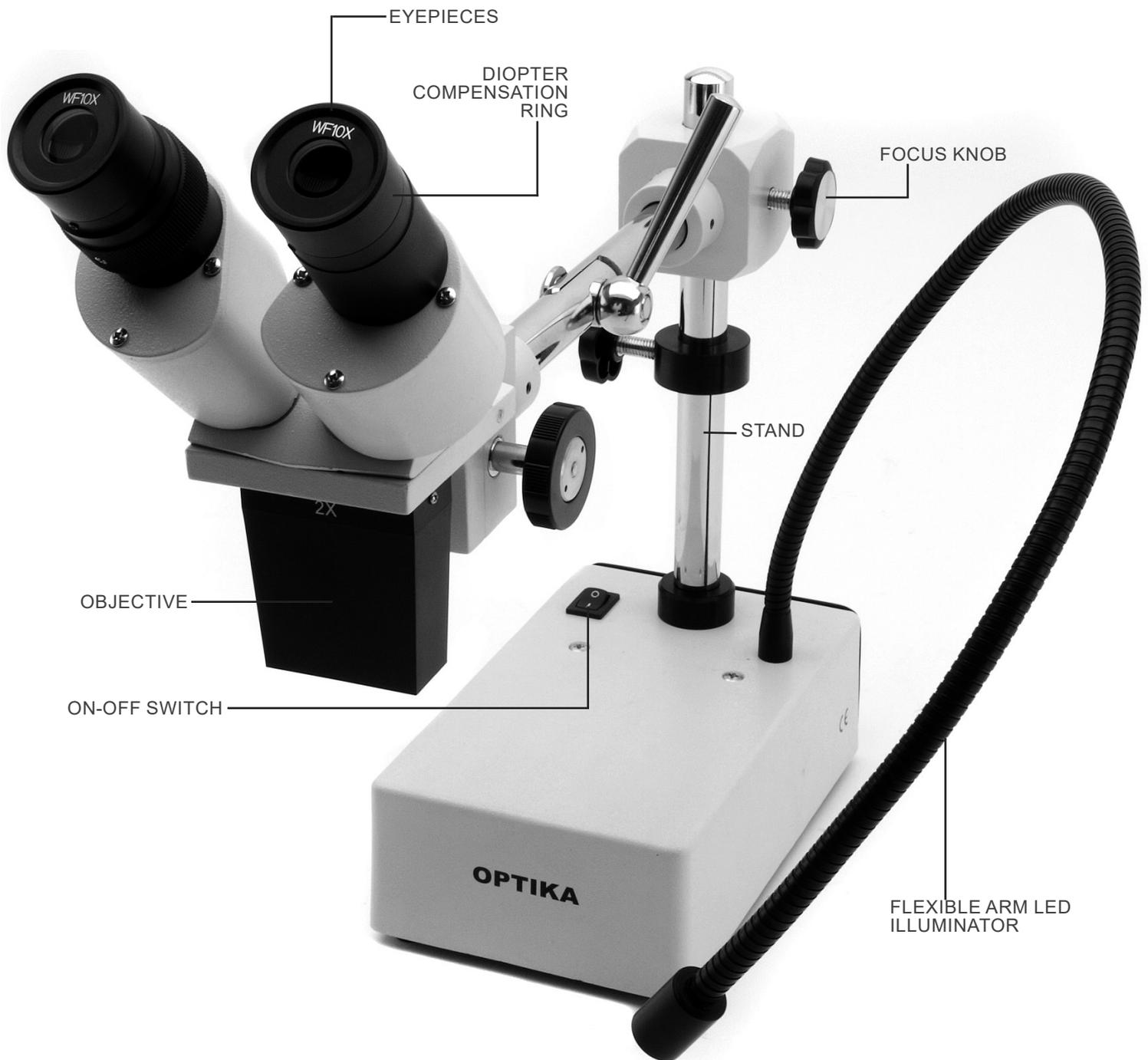
7.4 SFX-91



7.5 SFX-91D



7.6 ST-50Led



8. Assembling

No installation procedure is required for these models.

The only thing you need to do is to connect the power supply (or power cable) to the microscope and the wall socket.

9. Use of the microscope

9.1 Placing the specimen

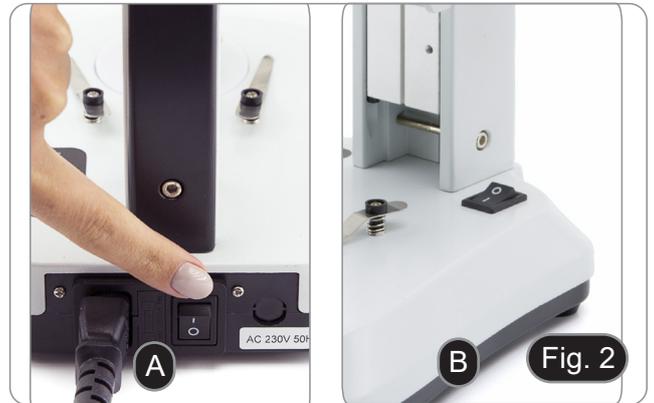
Place the specimen on the microscope stage and lock the specimen using the slide-clamp if it is necessary.

- Ensure that the specimen is centered over the stage opening. (Fig.1)



9.2 Turning on the light

- The microscope comes with an electrical illuminator.
1. Insert the plug of the cable into the power socket (or the power supply jack in the socket).
 2. Turn on the switch on the main body and select your light source. (Fig. 2A-2B)



For SFX models, repeatedly press the touch button in order to change the light intensity.

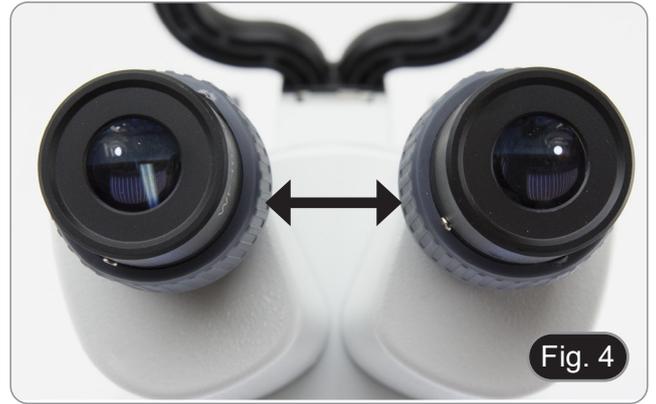
- Depending on the model, the light intensity can be adjusted with a knob on the right side of the stand. (Fig. 3)



9.3 Adjust interpupillary distance

Hold the right and left parts of the observation head by both hands and adjust the interpupillary distance by turning the two parts until one circle of light can be seen.

- If two circles appear, the interpupillary distance is too big.
- If two overlapped circles appear, the interpupillary distance is too small. (Fig. 4)



9.4 Focus

Rotate the focusing knob to bring the sample in focus. (Fig. 5)



9.5 Diopter compensation

This compensation makes it possible for people with glasses to adjust the microscope to their eyes and use the microscope without glasses.

1. Adjust the diopter compensation ring of the right eyepiece tube until the image of the right eyepiece is clear and sharp. Repeat the procedure for the left eyepiece. (Fig. 6)



9.6 Magnification

Select the desired magnification by rotating the objective. (Fig. 7)

- Total magnification used can be calculated as:
Eyepiece magnification x Objective lens magnification.



9.7 Contrast disc

You can use the black/white disc in order to enhance the contrast of the image when using the incident illumination.

If you want to look at bright opaque objects, place the disc with the black side up. (Fig. 8)



9.8 Inserting the batteries

(Models with rechargeable batteries)

- Before you start using the instrument, you must insert the rechargeable batteries.
- 1. Open the battery cover (located on the bottom of the instrument) and insert the provided batteries, taking care to respect the polarities. (Fig. 9-10)
- 2. When finished, close the battery cover again.
- **In case rechargeable batteries are not included, it is necessary to use 3x AA rechargeable NiMh 1.2V.**



9.9 Power ON-OFF LED

(Except SFX-31)

LED ① indicates the power status of the microscope. (Fig. 11)

LED ON (green): power supply connected or charged batteries inserted.

LED OFF (no color): Power supply not connected or batteries discharged or not inserted.



10. Installation of camera drivers and software

Only for SFX-91D

Operating system requirements: Windows XP, Windows 7, Windows 8 and Windows 10.

- If the operating system of your PC is Windows XP: before the installation of your Camera please check if Service Pack2 is installed. If not, please update your XP from the Microsoft web site.

The software can be downloaded using the QR code printed on the booklet provided with the manual or using the following link: <http://www.optikamicroscopes.com/optikavisionlite.zip>

1. Open the folder **Optika Vision Lite** and run **Optika Vision Lite.exe**.
2. Now OptikaVisionLite icon appears on your desktop.
3. Open the folder **Drivers**, select the folder dedicated to your Operative System and run all the **.exe** files.
4. The installer may show warnings about missing Windows certification: ignore such warnings and select **Continue**.
 - **Note: do NOT cancel the installation.**
5. At the end of the installation process restart the PC if requested.
6. Plug the camera: it will be identified and Windows will recognize the driver which has just been installed. Then ignore any message about Windows compatibility and select **Continue**.
 - **Note: do NOT cancel the installation.**
7. System is ready.

11. Maintenance

Microscopy environment

This microscope is recommended to be used in a clean, dry and shock free environment with a temperature of 5°-40°C and a maximum relative humidity of 75 % (non condensing). Use a dehumidifier if needed.

To think about when and after using the microscope



- The microscope should always be kept vertically when moving it and be careful so that no moving parts, such as the eyepieces, fall out.
- Never mishandle or impose unnecessary force on the microscope.
- Never attempt to service the microscope yourself.
- After use, turn off the light immediately, cover the microscope with the included dust cover, and keep it in a dry and clean place.

Electrical safety precautions



- Before plugging in the power supply, make sure that the supplying voltage of your region matches with the operation voltage of the equipment and that the lamp switch is in OFF position.
- Users should observe all safety regulations of the region. The equipment has acquired the CE safety label. However, users do have full responsibility to use this equipment safely.

Cleaning the optics

- If the optical parts need to be cleaned try first to: use compressed air.
- If that is not sufficient: use a soft lint-free piece of cloth with water and a mild detergent.
- And as a final option: use the piece of cloth moistened with a 3:7 mixture of ethanol and ether.
- **Note: ethanol and ether are highly flammable liquids. Do not use them near a heat source, near sparks or near electric equipment. Use these chemicals in a well ventilated room.**
- Remember to never wipe the surface of any optical items with your hands. Fingerprints can damage the optics.
- Do not disassemble objectives or eyepieces in attempt to clean them.

For the best results, use the OPTIKA cleaning kit (see catalogue).

If you need to send the microscope to Optika for maintenance, please use the original packaging.

12. Troubleshooting

Review the information in the table below to solve operating problems.

PROBLEM	CAUSE	SOLUTION
I. Optical Section:		
The illumination is ON, but the field of view is dark.	The plug is not connected to the illumination	Connect the cable
	The brightness is too low	Adjust to a proper setting
The edge of the field of view is vignetted or the brightness is asymmetric.	The incident illuminator is not correctly oriented	Change the angle of the incident illuminator
Dust and stains can be seen in the field of view.	There are stains and dust on the specimen	Clean the specimen
	There are stains and dust on the eyepiece	Clean the eyepiece
Poor image quality: <ul style="list-style-type: none"> The image is not sharp The contrast is not high The details are not clear Image glares 	The lenses (additional lens, objective, eyepieces) are dirt	Thoroughly clean all the optical system
One side of the image is out of focus.	The specimen is out of place (tilted)	Place the specimen flat on the stage.
II. Mechanical Section:		
The focus knob is hard to turn.	The tension adjustment collar is too tight	Loosen the tension adjustment collar
The focus is unstable.	The tension adjustment collar is too loose	Tighten the tension adjustment collar
III. Electric Section:		
The LED doesn't turn on.	No power supply	Check the power cord connection
The brightness is not enough	The brightness adjustment is low	Adjust the brightness
The light blinks	The power cord is poorly connected	Check the power cord
IV. Viewing tube assembly:		
The field of view of the two eyes is different	The interpupillary distance is not correct	Adjust the interpupillary distance
	The diopter correction is not right	Adjust the diopter correction
	The viewing technique is not correct, and the operator is straining the eyesight	When look into the eyepieces, do not stare at the specimen but look at the whole field of view. Periodically, move the eyes away to look at a distant object, then back into the eyepieces

Equipment disposal

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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