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Nikon

AZ-ICI

Coaxial Episcopic Illuminator

Instruction Manual

Introduction

Thank you for purchasing the Nikon products.

This instruction manual is written for the users of the Nikon AZ-ICI Coaxial Episcopic Illuminator.

To ensure correct usage, read this manual carefully before operating the product.

- It is prohibited to reproduce or transmit this manual in part or whole without Nikon’s expressed permission.
- The contents of this manual are subject to change without notice.
- Although every effort has been made to ensure the accuracy of this manual, if you note any points that are unclear or incorrect, contact your nearest Nikon representative.
- Some of the products described in this manual may not be included in the set you have purchased.
- Also be sure to read the manuals for any other products that you are using with this product.
- If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

Safety Precautions

To ensure correct and safe operation, read this manual before using the product.

Warning/Caution Symbols Used in This Manual

Although Nikon products are designed to provide you with the utmost safety during use, incorrect usage or disregard of the instructions can cause personal injury or property damage and will lead to the forfeiture of all claims against warranty. For your safety, read the instruction manual carefully and thoroughly before using the product. Additionally, do not discard this manual but keep it near the product for easy reference.

Safety instructions within this manual are accompanied by the following symbols to highlight their importance. Be sure to follow the instructions indicated with these symbols.

Symbol	Details
⚠ **Warning**	Disregarding instructions marked with this symbol may lead to death or serious injury.
⚠ **Caution**	Disregarding instructions accompanying this symbol may lead to injury or property damage.

⚠ Warning

1. **Intended application of this product**

   This product must only be used for microscopic observation. Do not use this product for other purpose.

2. **Do not disassembly.**

   Disassembling this product may result in malfunctions. Malfunctions and damage due to disassembling are unwarranted. Do not disassemble the section which is not indicated in this manual. If you notice any abnormalities, contact your nearest Nikon representative.

3. **Read the instruction manual carefully.**

   To ensure safety, carefully read this manual and the manuals for other equipment used with this product. Especially be sure to follow the warnings and cautions indicated in the first of the manual.

Warning

4. Use the specified light source.

Use this product with the following light sources. Do not use this product with the devices other than the following light sources.

- Nikon Fiber Illuminator C-FI115D (For Japan)
- Nikon Fiber Illuminator C-FI115 (For countries excluding Japan where the power supply is 100 to 120 VAC)
- Nikon Fiber Illuminator C-FI230 (For countries where the power supply is 220 to 240 VAC)

5. Check the input voltage.

To use a light source, check the input voltage indicated on its nameplate before turning on the source. If the input voltage indicated on the places differs from the local voltage, do not turn on the microscope. Contact your nearest Nikon representative. Use of the light source under the incorrect voltage may cause over-heating due to over-current, possibly resulting in a fire and damaging the light sources.

6. Use the specified lamp and power cord.

Be sure to use the light source with the lamp and power cord specified in the instruction manual. Use of other lamps or power cords may cause malfunctions or fire.

7. Use the provided light guide fiber.

Be sure to use the light guide fiber provided with this product. Use of other devices may cause malfunctions or fire.

8. Pay attention for heat from the light source.

Lamp and its surrounding areas of the light source become very hot during and immediately after illumination. Follow the cautions below to avoid burn injury and to prevent fire.

- Do not touch the lamp or its surroundings while the lamp is lit or for 30 minutes after turning off the power.
- Be sure to use the product with the top cover of the light source closed.
- Allow the lamp and its surrounding areas to cool (for approximately 30 minutes after being turned off) before replacing the lamp.
- Do not allow cloth, paper, or highly flammable volatile materials, such as gasoline, benzine, paint thinner or alcohol, to come near the light source while the lamp is lit or within 30 minutes after turning off the power.
- Do not block the opening on the side of the light source and air vents on the back. To ensure that it radiates heat properly and does not overheat, never cover or place any object on the light source.

Caution

1. **Turn off the power of the light source before assembly or maintenance.**

   To prevent electric shocks and fire, be sure to turn off the power of the light source by pressing down the power switch to “O” side and unplug the power cord when assembling the product, attaching the light guide fiber, replacing lamps or filters, or maintenance activities such as cleaning of the objective.

   Also, be sure to turn off the light source by pressing down the power switch to the “O” side before plugging or unplugging the power cord.

2. **Do not wet the product nor allow foreign matter to be intruded.**

   Do not wet the product. Water splashed onto any component of this product may result in malfunction. Also, malfunctions may occur if foreign matters intrude. If any liquid or foreign matters intrude, do not use the product, but contact your nearest Nikon representative.

Notes on Handling the Product

1. Carefully handle the product.

This product is a precision instrument. Handle it carefully and do not subject it to damage or vibrations.

Cautions on moving the product

- Securely hold the bottom front of the microscope base and indentations at the bottom back of the stage pillar when carrying the microscope.
- Do not grasp the stand pillar, elevating section, stage, stand height adjustment knob, focus knob, eyepiece tube, zoom body, etc. when carrying the microscope to avoid breakage, adverse effect on its performance, or malfunctions.

2. Installation or storage location

The product is a precision instrument. Using or storing the product under unsuitable conditions may damage it or may have an adverse effect on its performance. The following conditions should be considered when selecting the installation or storage location.

- For installation, select a location with a temperature from 0 to 40ºC and a relative humidity of 85 % or less (no condensation).
  For storage, select a location with a temperature from -20 to 60ºC and a relative humidity of 90% or less (no condensation).
  If the product is installed or stored in a location subject to high temperatures and humidity, mold or condensation may form on the lens, resulting in lowered performance and possible damage to the product.
- Avoid bright locations where the product is exposed to direct sunlight or immediately under room lights.
  The image quality deteriorates in bright surroundings because of the extraneous light entering the objective.
- Install in a place with little dust and dirt.
- Install in a place with little vibrations.
- Install and store the product on a sturdy desk or table that can bear the weight of the product.
- Install the product in the location of 10 cm or more away from the surrounding walls.
- Do not install in narrow space such as shelf or locker.
- Do not place anything on the product.
- Cover the product to avoid dust when storing.
- Arrange a layout that allows easy removal of the power cord from the inlet of the light source in the event of an emergency.

3. Weak electromagnetic waves

The light source emits weak electromagnetic waves. Do not install the light source near precision electronic devices to avoid degrading their performance. If a TV or radio reception is affected, move the TV or radio set farther from the light source.

4. Notes on handling optical parts

Scratch or dirt such as fingerprints on the optical parts such as lens or filter affects the viewing of the image.
Carefully use the optical parts without scratching. If any dirt attaches to the product, clean it according to Section 6, “Care and Maintenance”.

5. Handling the light guide fiber

Do not forcefully bend, pull or twist the light guide fiber. An inlet attachment and an outlet attachment are equipped to the both ends of the light guide fiber. Make sure that no dirt or dust remains. If the product is contaminated, clean it according to Section 6, “Care and Maintenance”.

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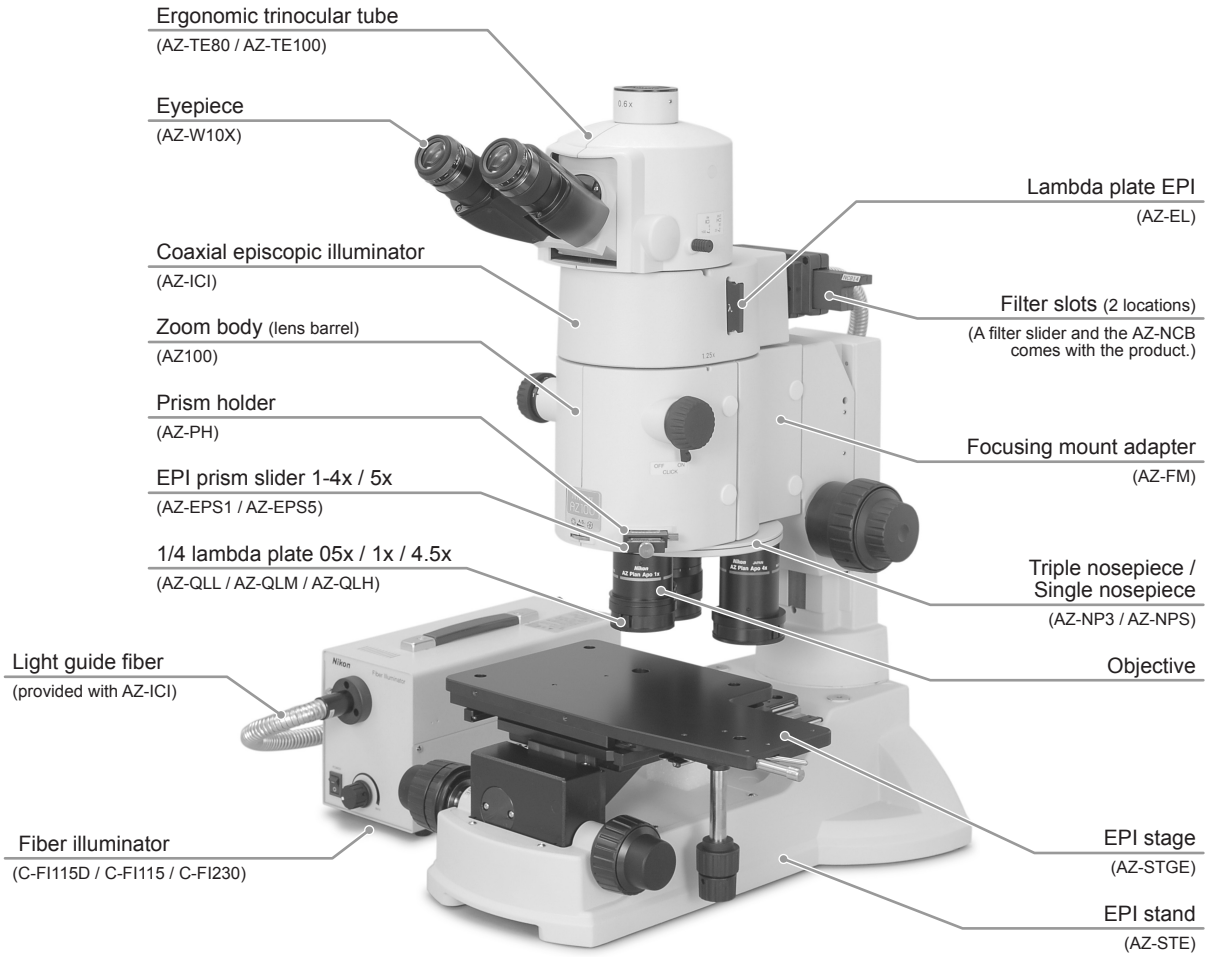
1 Part Names

The Nikon AZ-ICI Coaxial Episcopic Illuminator is an episcopic illuminator exclusive to the AZ series microscope.

The episcopic illumination are available by connecting the Nikon Fiber Illuminator C-FI115D/ C-FI115/C-FI230 (light source) and this product with the provided light guide fiber.



The figure shows the configuration of the following devices:

AZ-TE80 Ergonomic Trinocular Tube 80, AZ-W10X Eyepiece 10X, AZ-ICI Coaxial Episcopic Illuminator (with light guide fiber), AZ-EL EPI DIC Lambda Plate, AZ100 Zoom Body, AZ-PH EPI DIC Prism Holder, AZ-EPS1/AZ-EPS5 EPI DIC Prism Slider, AZ-FM AZ (Focusing Mount) Adaptor, AZ-NP3 Triple Nosepiece, AZ-Plan series objectives, AZ-QLL/QLM/QLH 1/4 Lambda plate, AZ-STE Episcopic Stand, AZ-STGE EPI Stage, and C-FI115D/C-FI115/C-FI230 Fiber Illuminator

2 Microscopy

Bright-Field Microscopy under Epi-illumination

This section indicates the operation procedure of bright-field microscopy under epi-illumination with the AZ-ICI coaxial episcopic illuminator.

1 **Prepare for operation.**

a Select the optical path of the eyepiece tube. (vertical tube part ⇔ binocular part)
b Set the specimen.
c Turn on the light source and adjust the brightness.
d Adjust the interpupillary of the binocular part.
e Adjust the diopter.

2 **Remove the DIC prism and the lambda plate from the optical path.**

3 **Place an objective into the optical path (when the triple nosepiece is used).**

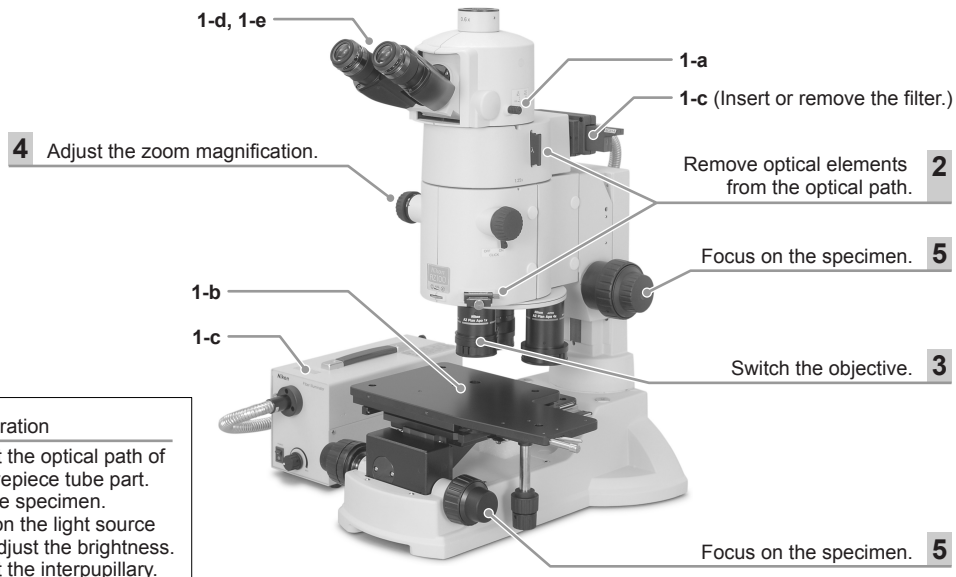
4 **Adjust the zoom magnification properly.**

The zoom magnification for the selected objective can be adjusted in the range from x1 to x8 by rotating the zoom knob.

5 **Focus on the specimen.**

Focus on the specimen by rotating the focus knobs for the elevating section on the stand pillar and the focus knobs for the stage on the microscope base.

Bright-field microscopy under epi-illumination



1 Preparation
a. Select the optical path of the eyepiece tube part.
b. Set the specimen.
c. Turn on the light source and adjust the brightness.
d. Adjust the interpupillary.
e. Adjust the diopter.

DIC Microscopy under Epi-illumination

This section indicates the operation procedure of DIC microscopy under epi-illumination with the AZ ICI coaxial episcopic illuminator.

1 **Focus on the specimen with the DIC microscopy under the epi illumination.**

For the preparation of the microscope and the specimen, refer to “Bright-Field Microscopy under Epi-illumination” on the previous page.

2 **Remove the 1/4 lambda plate from the tip of the objective and attach the compersation glass accessory to the objective.**

Before the DIC microscopy, remove the 1/4 lambda plate from the optical path.

• Be sure to attach the compensation glass to protect the objective.

3 **Place the DIC prism into the optical path.**

Push in the EPI prism slider attached to the prism holder for the AZ100 Zoom Body to place the DIC prism (Nomarski prism) into the optical path.

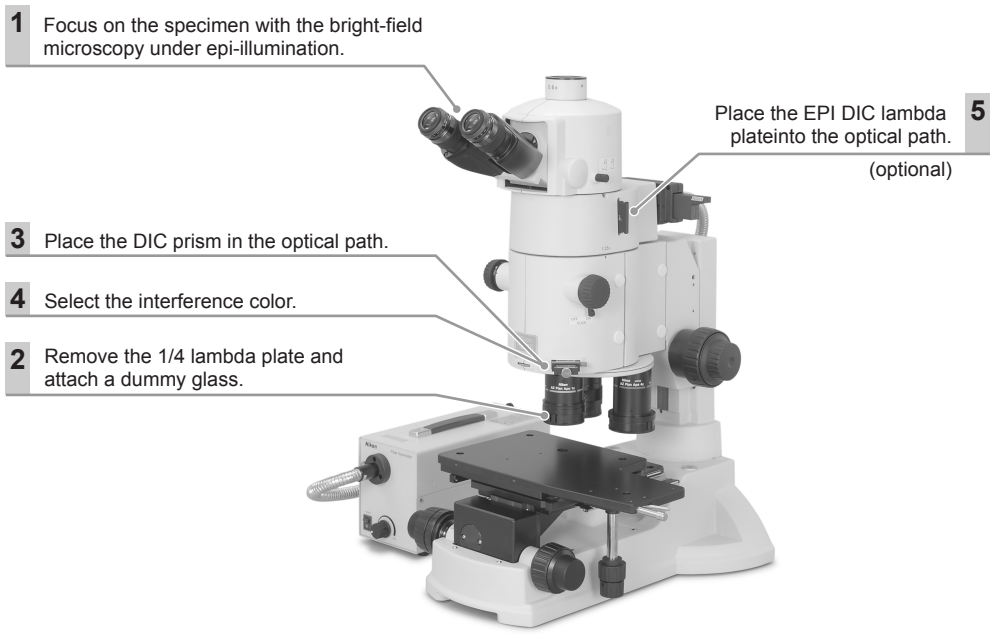
4 **Select the interference color.**

Select an interference color by rotating the prism position knob on the tip of the EPI prism slider.

5 **Insert the EPI DIC lambda plate when necessary.**

When the EPI DIC lambda plate is placed in the optical path in a condition that the interference color is gray, the interference color changes to sensitive red. This color is useful for the high color contrast observation.

DIC microscopy under epi-illumination



3 Operation Procedures

This section indicates the operation procedures of each part of the AZ100.

Information

Magnification

Magnification of this product is 1.25x. When installing this product to the microscope, multiply the total magnification by 1.25.

Specimens suitable for the microscopy under the coaxial episcopic illumination

Some specimens are suitable for the microscopy under the coaxial episcopic illumination.

Suitable specimens	High reflectance surface specimens such as a wafer and a hard disk
Non-suitable specimens	Low reflectance surface specimens such as a rough metal surface, paper, and a print circuit board

To observe a non-suitable specimen, the AZ-LED LED Ring Illuminator or the C-FID Bifurcated Fiber Light Guide is recommended.

Combinations of zoom magnifications and objective magnifications

The following combinations are recommended for good illumination conditions of the product.

Objective	Zoom magnification
AZ-Plan Apo 0.5x	All magnification range
AZ-Plan Apo 1x **AZ-Plan Apo 4x** **AZ-Plan Apo 5x**	2x or larger

* The AZ-Plan Apo 2x objective cannot be used with the product.
  Besides, when the AZ-Plan Apo 0.5x objective is used, the DIC microscopy cannot be performed with the product.

Operation of the Illuminator

For the detailed operation of the Fiber Illuminator, refer to the instruction manual for it.

Turning on/off the lamp

To turn on/off the illumination light, turn on/off the power of the optical fiber light source.

Press down the power switch to the “I” side to light it up, and to the “O” side to turn it off.

Brightness control

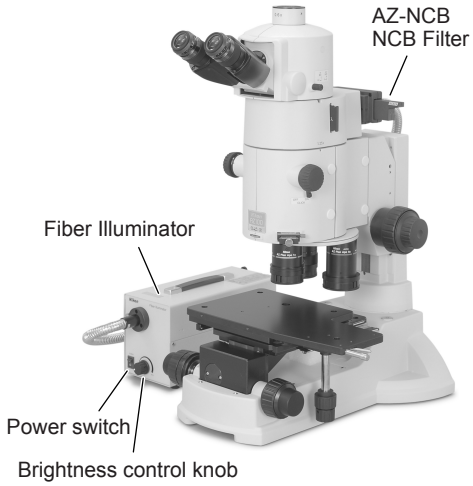
The brightness of the illumination is adjustable with the brightness knob on the optical fiber light source.

Turn the brightness knob clockwise to make the illumination brighter, and turn the brightness knob counterclockwise to make the illumination darker.

Daylight color illumination

For daylight color illumination, insert the provided AZ-NCB NCB Filter for Coaxial Epi Illuminator into the optical path and maximize the position of the brightness control knob on the Fiber Illuminator.

The brightness must be adjusted with ND filters.



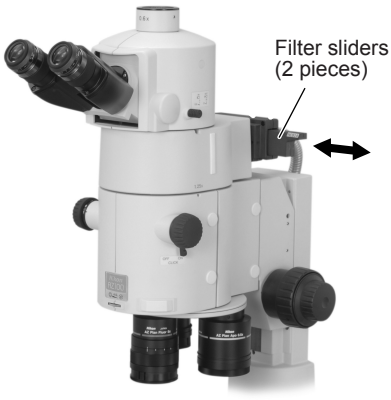
Operation of the illuminator

Operation of the Filter Slider

Up to two filter sliders can be attached to the back of the product and up to two filters can be set up to each filter slider. Attaching or detaching the filter slider allows the required filter to be place in the optical path.

Filter slider	Filter type	Intended application
YM-ND25 ND4／ND16	ND filter (ND4/ND16)	For brightness control (ND4: transmittance 25%, ND16: transmittance 6%)
AZ-NCB NCB Filter for Coaxial Epi Illuminator	Neutral color balancing filter (NCB14)	For color balancing and color photomicrography

For details on attaching the filter slider and replacing filters, refer to “Attaching Filter Sliders” on page 15.

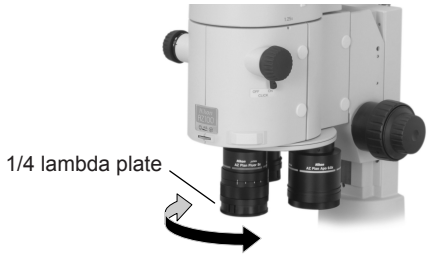


Operation of the filter slider

Operation of the 1/4 Lambda Plate

The polarizer and analyzer are assembled inside this product to reduce flare caused by the reflection inside the AZ100.

The image contrast can be adjusted by rotating the 1/4 lambda plate attached to the tip of the objective.



Operation of the 1/4 lambda plate

Operation of the DIC Prism

The AZ-ICI is equipped with an analyzer and a polarizer. Therefore, when the prism holder, AZ-PH, and the EPI prism holder, AZ-EPS1 or AZ-EPS5, are attached to the slider slot of the AZ100, the differential interference contrast (DIC) microscopy can be performed under the episcopic illumination.

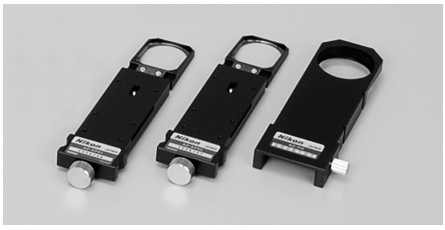
The DIC microscopy cannot be performed with the Plan Apo 0.5x or Plan Fluor 2x.

Removing the 1/4 lambda plate

To perform the DIC microscopy, remove the 1/4 lambda plate from the tip of the objective and attach the compensation glass accessory to the objective.

Attaching the prism holder

Remove the cover of the slider slot on the AZ100 zoom body. And then attach the prism holder (AZ-PH).



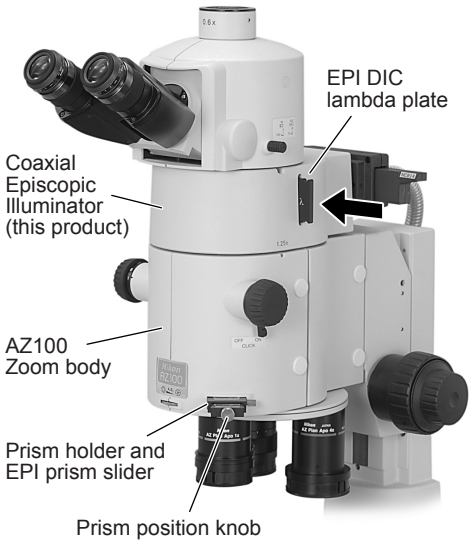
Two EPI prism sliders and a prism holder

Attaching the EPI prism slider

Loosen the clamp screw on the side of the prism holder (AZ-PH) attached to the AZ100. And then, attach an EPI prism slider (AZ-EPS1 or AZ-EPS5) into the slot of the prism holder.

Each EPI prism slider has the same color code symbol of the corresponding objective. Check the color code symbol on the objective to be used and use the EPI prism slider corresponding to the color code.

Objective	Color code	EPI prism slider
1x	Gold	AZ-EPS1
4x	Red	AZ-EPS1
5x	Orange	AZ-EPS5



**EPI prism slider and
EPI DIC lambda plate installation**

Operating the EPI prism slider

The DIC prism can be inserted to or extracted from the optical path with the EPI prism slider operation. Loosen the clamp screw on the side of the prism holder a little. To place the prism into the optical path, push in the EPI prism slider as far as it goes. To remove the prism from the optical path, pull out the EPI prism slider fully. Note that if the clamp screw is loosened too much the EPI prism slider will be detached.

For the interference color adjustment in the DIC microscopy, place the prism into the optical path and rotate the prism position knob at the edge of the slider to move the prism.

Operating the EPI DIC lambda plate (option)

To use the EPI DIC lambda plate, AZ-EL, remove the slot cover on the right of the AZ-ICI and insert the EPI DIC lambda plate in place.

Push in the lambda plate as far as it goes to place the lambda plate into the optical path. Pull the lambda plate to the clickstop position to remove the lambda plate from the optical path.

When the lambda plate is inserted in a condition that the interference color is gray, the interference color changes to sensitive red. This color is useful for the high color contrast observation.

4 Assembly

This chapter describes the assembling the product to the AZ series devices.

Caution

Be sure to read the "Safety Precautions" and follow the all instructions given there before assembling the product.

* For details about the assembling method of the AZ100, refer to the instruction manual for the AZ100. For the installation procedure of the AZ-STD Diascopic Stand, AZ-STGD DIA Stage, AZ-FL Epi-Fluorescence Attachment, AZ-LED LED Ring Illuminator, refer to their instruction manuals.

Necessary tool

The tool below is required to assemble the product.

Tool	Appearance	Note
Hexagonal driver (2 mm)		Provided with the AZ-100.

Installation of the Coaxial Episcopic Illuminator

Mount the AZ-ICI coaxial episcopic illuminator on the AZ100 zoom body. If an eyepiece tube is attached to the zoom body, remove the eyepiece tube before this operation.

1. **Sufficiently loosen the clamp screw on the right of the zoom body with the hexagonal driver provided with the AZ100.**

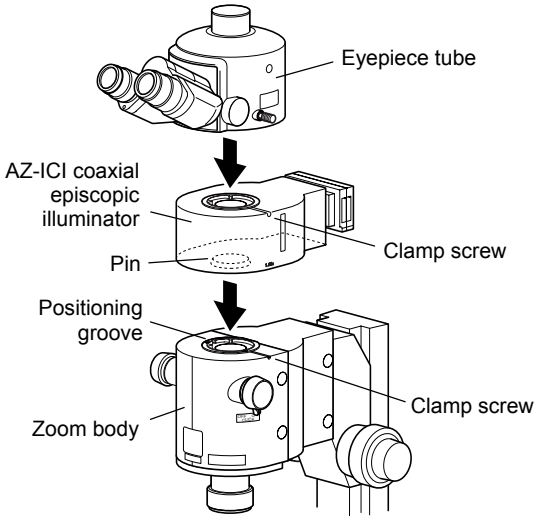
2. **Place the coaxial episcopic illuminator on the zoom body so that the dovetail joint on the bottom of the illuminator is inserted into the mounting position of the zoom body and the pin on the bottom of the illuminator is aligned to the positioning groove of the zoom body.**

   Check that the illuminator is attached horizontally in place.

3. **Secure the coaxial episcopic illuminator with the clamp screw.**

4. **Mount an eyepiece tube onto the coaxial episcopic illuminator.**

   Refer to the instruction manual of AZ100 for the mounting procedure.



Installation of the coaxial episcopic Illuminator

Connecting the Light Guide Fiber

Connect the coaxial episcopic illuminator and the optical fiber light source with the light guide fiber. Be sure to use the light guide fiber provided with this product.

⚠ Caution

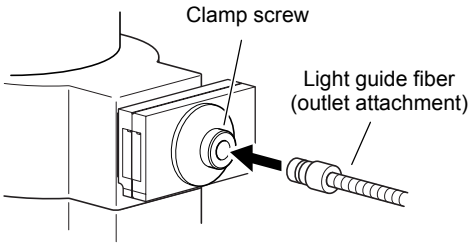
Do not forcefully bend, pull or twist the light guide fiber. Additionally, do not expose it to high temperature near the devices such as the light source.

The attachments for connecting with a device are provided to the both ends of the light guide fiber. The attachment at the illuminator side is called "inlet attachment" and the one at the microscope side (diascopic stand side) is called "outlet attachment." Connecting those attachments with wrong devices may adversely affect the illumination performance and result in malfunction of the light guide fiber. Correctly connect the light guide fiber according to the following procedure.

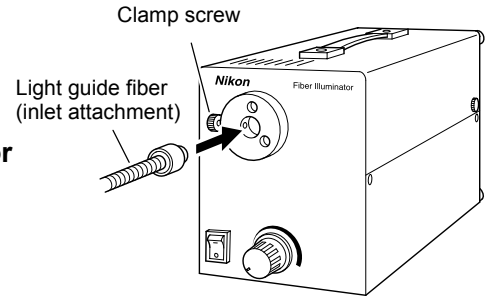
1. **Make sure that the optical fiber light source is turned off and the power cord is unplugged.**
2. **Sufficiently loosen the clamp screw at the optical fiber connector on the back of the coaxial episcopic illuminator with the hexagonal driver provided with the AZ100.**
3. **Insert the outlet attachment of the light guide fiber into the optical fiber connector of the coaxial episcopic illuminator and secure the attachment with the clamp screw.**

   The outlet attachment has the longer mouthpiece and groove. Insert the outlet attachment as far as it goes and secure it there.
4. **Sufficiently loosen the clamp screw at the connector of the optical fiber light source.**
5. **Insert the inlet attachment of the light guide fiber into the connector of the optical fiber light source and secure the attachment with the clamp screw.**
6. **Open the cover of the optical fiber light source. Detach the filter holder from the light source and attach the boost lens provided with the AZ-ICI to the filter holder.**

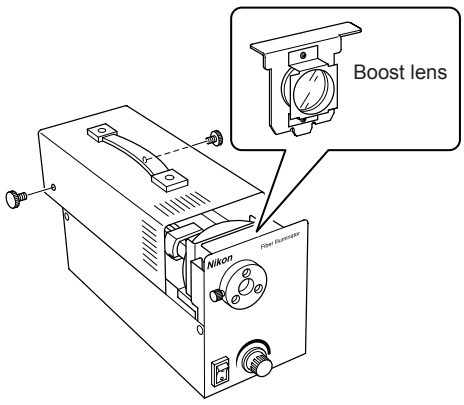
   Attach the boost lens and close the cover securely.



Connecting the light guide fiber
(To the coaxial episcopic illuminator)



Connecting the light guide fiber
(To the optical fiber light source)



Attaching the boost lens
(To the optical fiber light source)

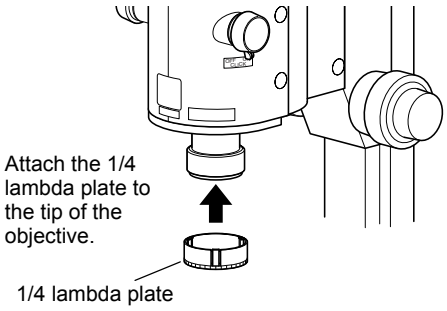
Attaching the 1/4 Lambda Plate

Attach the 1/4 lambda plate to the tip of the objective. Select the suitable plate for the objective.

Objective	1/4 lambda plate
AZ-Plan Apo 0.5x	AZ-QLL
AZ-Plan Apo 1x	AZ-QLM
AZ-Plan Apo 4x AZ-Plan Fluor 5x	AZ-QLH

To attach the AZ-QLL to the AZ-Plan Apo 0.5x, unscrew the protector ring from the tip of the objective. And then screw in the 1/4 lambda plate in place. To attach another plate to another objective, remove the compensation glass from the tip of the objective and then fit the 1/4 lambda plate in place.

* The AZ-Plan Fluor 2x is unavailable for this system.

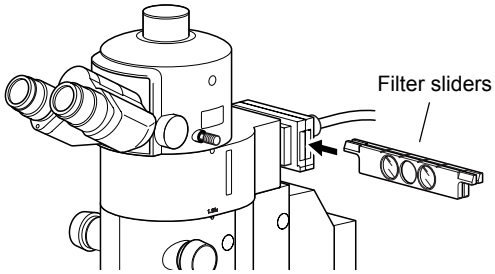


Attaching the 1/4 lambda plate

Attaching Filter Sliders

The coaxial episcopic illuminator has two slots for filter sliders. Insert the filter sliders into the slots with the label on the sliders facing front.

The filter slider has three clickstop positions. When the slider is inserted to the center clickstop position, a hole is placed into the optical path. And when inserted to other clickstop position, a filter is placed into the optical path.

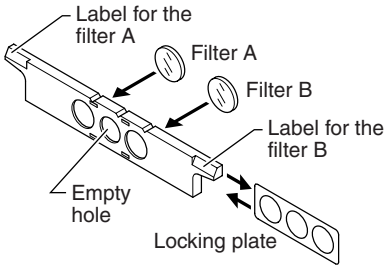


Attaching filter sliders

Attaching a Filter

1. **When filter sliders are attached to the coaxial episcopic illuminator, detach them.**
2. **Pull out the locking plate from the filter slider you use.**
3. **Set the required filter to the filter slider.**

   Two filters can be set to one filter slider. For the center hole of the slider, do not set any filters.
4. **Reattach the locking plate to its original position.**
5. **Attach the filter sliders to the filter slots of the coaxial episcopic illuminator.**



Attaching a filter

Caution

Even if not using filters, be sure to insert the filter sliders into the slots.

5 Troubleshooting

Misuse of the product, although it does not cause a malfunction, may adversely affect performance. If any of the following trouble comes, be sure to check the following table for possible causes before requesting service.

Contact your nearest Nikon representative if the troubles cannot be resolved by taking the following measures.

Troubleshooting on Image Viewing

Trouble	Cause	Countermeasure
The viewfield is invisible, vignetted, uneven in brightness, or too dark.	The product is not assembled correctly.	Assemble the product correctly. (p.13 to 15)
	The light source is not connected correctly.	Connect the light source correctly. (p.14)
	The light guide fiber is not connected correctly. The inlet attachment and the outlet attachment of the light guide fiber is reversed.	Connect the light guide fiber correctly. (p.14)
	The lamp or filter is not attached to the light source correctly.	Attach the lamp or filter correctly. (See the instruction manual for the light source.)
	The filter slider or DIC prism slider is not inserted completely.	Insert the slider to the clickstop position or as far as it goes. (p.11 and 12)
	Dirt or dust is attached to the lenses (objective and eyepiece) or the specimen.	Clean the components. (p.18)
	Unnecessary filters are in the optical path.	Place only necessary filters in the optical path by adjusting the filter slider and DIC slider. (p.11 and 12)
	The boost lens is not attached to the optical fiber light source.	Attach the boost lens. (p.14)
	The specimen is not applicable for the coaxial episcopic illumination.	Change the illumination system to a suitable one. (p.10)
Dirt or dust is seen in the viewfield.	Dirt or dust is attached to the lenses (objective and eyepiece) or the specimen.	Clean the components. (p.18)
	The opening size of the aperture diaphragm is too small.	Increase the opening size appropriately. (Refer to the instruction manual for the AZ100.)
The viewing is poor (too much or too little contrast, or poor resolution).	Dirt or dust is attached to the lenses (objective and eyepiece) or the specimen.	Clean the components. (p.18)
The image is tinged yellow.	The NCB filter is not used.	Place the AZ-NCB into the optical path. (p.11)
	The lamp voltage is too low.	Brighten the lamp with the brightness control knob of the light source and adjust the brightness with the ND filter. (p.11)
The image is too bright.	The lamp voltage is too high.	Decrease the lamp voltage with the brightness control knob on the light source. (p.11)
	No ND filter is placed in the optical path.	Place the ND filter in the optical path. (p.11)

Trouble	Cause	Countermeasure
The brightness is insufficient.	The lamp voltage is too low.	Increase the lamp voltage with the brightness control knob. (p.11)
	ND filters are in the optical path.	Remove the filters from the optical path. (p.11)
	The opening size of the aperture diaphragm is too small.	Increase the opening size appropriately. (Refer to the instruction manual for the AZ100.)
	The 1/4 lambda plate is not adjusted correctly.	Rotate the 1/4 lambda plate for adjustment. (p.12)
Eyes get tired during observations.	The brightness is insufficient.	Adjust the brightness with the brightness control knob of the light source or ND filters. (p.11)
A flare image is seen all over the field of view.	The 1/4 lambda plate is not attached correctly.	Attach the 1/4 lambda plate. (p.15)
No interference color is seen in the DIC microscopy.	No DIC prism is placed in the optical path.	Place the DIC prism in the optical path. (p.14)

Troubleshooting on the Light Source

* Refer to the “C-FI115D/C-FI115/C-FI230 Instruction Manual” for details of the following countermeasures.

Trouble	Cause	Countermeasure
The lamp does not light even though the power switch is turned on.	The power cord is not connected, or is not connected securely.	Plug the power cord to the AC inlet and to the wall outlet.
	The lamp is not attached nor attached to the socket correctly.	Attach the specified lamp correctly.
	The lamp is blown.	Replace the lamp with a brand-new.
	A wrong lamp is used.	Use the specified lamp.
The lamp flickers, or the brightness is unstable.	The lamp is about to blow.	Replace the lamp with a brand-new.
	The power cord is not connected securely.	Connect it properly.
	The lamp is not attached to the socket correctly.	Connect the lamp correctly.
	The light guide fiber is not connected correctly.	Connect it properly. (p.14)
The lamp burns out in a short time.	A wrong lamp is used.	Use the specified lamp.
	The input voltage of the power supply is wrong.	Connect the product to the power supply whose voltage is suitable to the product.

6 Care and Maintenance

Cleaning of the Light Guide Fiber and the Lenses

Keep the end sections of the light guide fiber and the lenses away from dust particles or fingerprints. The dirt adversely affects the viewing of the image. If any of the light guide fiber or the lenses get dirty, clean them as described below.

- Remove dust particles with a soft brush or lightly wipe off with a gauze.
- Only when fingerprints or oily substances are attached, use soft clean lens tissue, cotton cloth or gauze with a little absolute alcohol (ethyl alcohol or methyl alcohol) moistened to remove the dirt.
- Do not use any solvents other than absolute alcohol as they may damage the lens adhesion surfaces. Especially, do not use petroleum benzine for the lens or filter.
- Absolute alcohol is extremely flammable. Keep this flammable solvents away from fire or sparks emitted when turning on/off the power switch of the light source.
- Use absolute alcohol according to the instructions provided by the manufacturer.

Cleaning of the Product

- We recommend that you use a silicon cloth to clean the product.
- For persistent dirt, dampen a piece of gauze with neutral detergent and wipe lightly.
- Use of organic solvent may result in discoloration of the plastic parts.

Decontamination

- We recommend that you use 70% medical alcohol for decontamination of the product.
- When a specimen is dropped onto the microscope, check that the specimen is hazardous or not. If the specimen is hazardous, follow your standard facility procedures.
- Use of organic solvent could result in discoloration of the plastic parts.

Storage of the Product

- Store this product in a dry place where mold is not likely to form.
- Put the dust-proof cover over this product to protect it from dust.
- Before putting on the dust-proof cover, turn off the power switch of the light source (press it down to the “O” side) and wait until the lamp house gets cool sufficiently.
- Store the light guide fiber and filters in a desiccator or similar container with a drying agent.

Regular Inspections (Charged)

Regular inspection (charged) is recommended to maintain the performance of the product. Contact your nearest Nikon representative for details.

7 Specifications

Type	AZ-ICI Coaxial Episcopic Illuminator
Magnification	1.25x
Optical system	Objective and zoom magnification of adequate brightness AZ-Plan Apo 0.5x: all zoom range AZ-Plan Apo 1x: 2x or larger AZ-Plan Apo 4x: 2x or larger AZ-Plan Fluor 5x: 2x or larger Objective for DIC microscopy AZ-Plan Apo 1x AZ-Plan Apo 4x AZ-Plan Fluor 5x
Specified light source	C-FI115D fiber illuminator (For Japan) C-FI115 fiber illuminator (For countries excluding Japan where the power supply is 100 to 120 VAC) C-FI230 fiber illuminator (For countries where the power supply is 220 to 240 VAC) * Connect those fiber illuminators with the provided light guide fiber.
Accessory	Light guide fiber (length: 1 m) AZ-NCB filter slider and general filter slider (one piece each) Boost lens (for the optical fiber light source)
External dimensions	140 mm (width) x 263 mm (depth) x 74.5 mm (height) (excluding protrusions)
Weight	Approximately 2.45 kg
Operating conditions	Temperature: 0 to +40ºC Humidity: 85% RH Max (no condensation) Altitude: 2000 m Max Pollution degree: Degree 2 Installation: Category II Indoor use only
Storage environment	Temperature: -20 to +60ºC Humidity: 90% RH Max (no condensation)