M737E 20.6.NC.1

Nikon

Microscope

ECLIPSE

Ei

Instructions

Introduction

Thank you for purchasing a Nikon product.

This instruction manual is intended for users of the Nikon Microscope ECLIPSE Ei.

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

- No part of this manual may be reproduced or transmitted in any form without prior written permission from Nikon.
- The contents of this manual are subject to change without notice.
- The equipment described in this manual might differ from the actual product in its appearance.
- Although every effort has been made to ensure the accuracy of this manual, errors or inconsistencies might remain. If you notice any points that are unclear or incorrect, please contact your local Nikon representative.
- Some of the equipment described in this manual may not be included in the set you have purchased.
- If you intend to use any other equipment with this product, read the manual for that equipment too.
- If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment might be impaired.

Contents

Safety Precautions

Although this product is designed and manufactured to be completely safe during use, incorrect usage or failure to follow the safety instructions provided may cause personal injury or property damage. To ensure correct usage, read this manual carefully before using the product. Do not discard this manual and keep it handy for easy reference.

Meaning of Symbols Used on the Product

Symbols that appear on the product indicate the need for caution at all times during use. Always refer to the instruction manual and read the relevant instructions before manipulating any part to which the symbol has been affixed.

Symbol	Contents
	**Biohazard** This symbol can be found on the microscope body (stage right side), and cautions the following: • WARNING: The product may become biohazardous if a sample is spilled onto the product. • To avoid exposure to biohazard, do not touch contaminated parts with your bare hands. • Decontaminate the contaminated parts according to the standard procedures for your facility.

WARNING and CAUTION Symbols

Safety instructions in this manual are marked with the following symbols to highlight their importance. For your safety, always follow the instructions marked with these symbols.

Symbol	Contents
 **WARNING**	Disregarding instructions marked with this symbol may lead to serious injury or death.
 **CAUTION**	Disregarding instructions marked with this symbol may lead to injury or property damage.

WARNING

1. Do not disassemble.

Disassembling this product may result in electric shock or malfunction. Malfunctions and damage due to disassembly will not be warranted. Do not disassemble any part unless instructed to do so in this manual. If you experience problems with the product, contact your nearest Nikon representative.

2. Read the instructions thoroughly.

To ensure safety, thoroughly read this manual and the manuals for other equipment to be used with this product. In particular, be sure to follow the warnings and cautions at the beginning of the manuals.

3. Input voltage, AC adapter, power cord

The AC adapter for supplying power to this product can be used with 100 to 240 VAC at 50 to 60 Hz. Use only the AC adapter and power cord specified in Chapter 7, “Specifications”. Use of another AC adapter or power cord may result in malfunction or fire.

- Avoid using the product in an environment where the supply voltage may fluctuate excessively.
- This product is classified as Class I for electrical shock protection. Be sure to connect it to a protective earth terminal.
- If the AC adapter is covered or items are placed on the AC adapter, heat dissipation may be hindered, causing it to become abnormally hot.

4. Handling flammable solvents

The following flammable solvents are used with the product:

- Immersion oil (Nikon Immersion Oil for oil immersion objectives)
- Absolute alcohol (ethyl alcohol or methyl alcohol for cleaning optical parts)
- Petroleum benzine (for wiping off the immersion oil)
- Medical alcohol (for disinfecting the microscope)

Never hold a flame near these solvents. When using a solvent, thoroughly read the instructions provided by the manufacturer, and observe the following precautions.

- Keep solvents away from the product and its surroundings when plugging/unplugging the AC adapter or power cord.
- Be careful not to spill the solvents.

5. Hazardous samples

This microscope is mainly for use in microscopic observation of a sample such as cells and tissue affixed to a slide.

When handling a specimen, check to determine whether the specimen is hazardous. Handle hazardous specimens according to the standard procedure for your laboratory. If the specimen is of an infectious nature, wear rubber gloves to avoid infection, and be careful not to touch a specimen. If such a sample comes in contact with the microscope, decontaminate the contaminated portion according to the standard procedure for your laboratory.

WARNING

6. Photobiological safety

This product is designed and manufactured in accordance with the safety standard IEC 62471 “Photobiological safety of lamps and lamp systems”.

Illumination near the stage and light from the camera port of the trinocular eyepiece tube are classified into the following risk group. The distance (hazard distance) from the vicinity of the stage or from the opening of the camera port where the risk group classification is equivalent to the exempt group that does not cause photobiological injury is as follows.

	Risk group classification	**Hazard distance**
Retinal blue light hazard	Risk group 1	0.5m

Illumination in risk group 1 can be hazardous.

- Pay attention to brightness adjustment by the brightness control knob and avoid looking strong light for a long time.
- Do not look into the field lens. The LED light source is built in under the field lens.
- Do not look into strong light from the camera port from directly above for a long time.
- When you do not attach the camera, attach the supplied cap to the camera port.

CAUTION

1. Assembly of the microscope

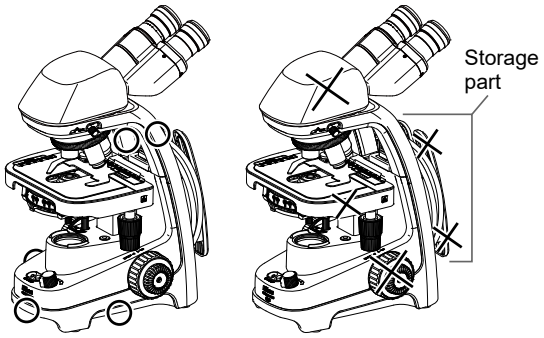
- Assemble the microscope while the AC adapter is not connected to it.
- Take care to avoid pinching your fingers and hands.

2. Do not wet the product or allow ingress of foreign matter.

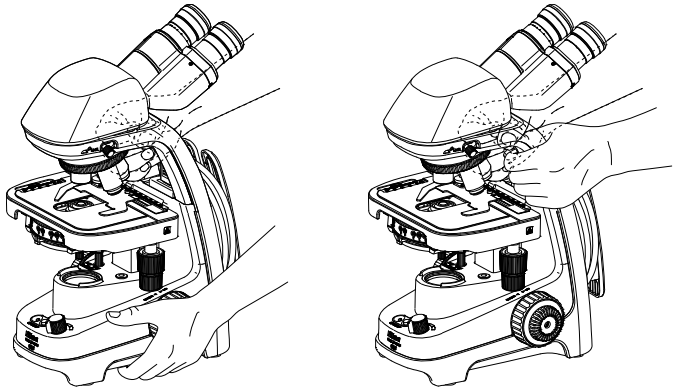
Do not allow the product to become wet, as doing so may result in malfunction, overheating, or electric shock. If water or other liquids are accidentally spilled onto the product, immediately unplug the power cord from the AC adapter. Then, wipe off the liquid with a dry cloth. Ingress of foreign matter may also result in malfunction. If liquids or foreign matter gets in the product, cease use of the product, and contact your nearest Nikon representative.

3. Moving the product

- The microscope has carrying handholds and handles.
  There are three handholds on the base and two handles on the arm of the microscope.
  When carrying the microscope, hold the microscope firmly by these handholds and handles.
  The storage part on the rear of the microscope is not a handle. Do not hold this part as it stores the AC adapter and power cord.
- When moving the product, do not hold by the focus knobs, eyepiece tube, and stage, etc. The parts may become detached and also result in malfunctions.



Where you can hold: ○
Where you must not hold: ×



Proper way to hold

4. Do not inadvertently push the microscope on the table.

If you push this product inadvertently, it might move on the installation surface. We recommend that you attach a wire to the security slot on the back of this product to fix it.

5. Disposal of the microscope

To avoid biohazard risks, dispose of the microscope as contaminated equipment, according to the standard procedures for your facility.

Sicherheitsvorkehrungen

Obwohl dieses Gerät auf einen sicheren Gebrauch ausgelegt ist, kann eine falsche Verwendung oder Nichtbeachtung der Sicherheitshinweise zu Verletzungen oder Sachschäden führen. Lesen Sie vor Gebrauch des Geräts dieses Handbuch aufmerksam durch, um einen korrekten Gebrauch zu gewährleisten. Entsorgen Sie dieses Handbuch nicht. Bewahren Sie es zum einfachen Nachschlagen auf.

Bedeutung der Symbole auf dem Gerät

Die Symbole auf dem Gerät zeigen an, dass während des Gebrauchs stets Vorsicht geboten ist. Lesen Sie immer die entsprechenden Anweisungen in der Bedienungsanleitung, bevor Sie Arbeiten an Teilen durchführen, die mit Symbolen versehen sind.

Symbol	Inhalt
	**Biologisches Risiko** Dieses Symbol befindet sich auf dem Körper des Mikroskops (rechte Tischseite) und bedeutet Folgendes: • WARNUNG: Das Gerät kann ein biologisches Risiko darstellen, wenn eine Probe auf dem Gerät verschüttet wird. • Fassen Sie zum Schutz vor biologischen Risiken keine kontaminierten Stellen mit bloßen Händen an. • Dekontaminieren Sie kontaminierte Stellen entsprechend den Standardprozessen Ihrer Einrichtung.

Symbole WARNUNG und VORSICHT

Die Sicherheitshinweise in diesem Handbuch sind mit den folgenden Symbolen gekennzeichnet, um ihre Bedeutung hervorzuheben. Befolgen Sie zu Ihrer eigenen Sicherheit stets alle Anweisungen, die mit diesen Symbolen gekennzeichnet sind.

Symbol	Inhalt
 **WARNUNG**	Nichtbeachtung von mit diesem Symbol gekennzeichneten Anweisungen kann zu schweren oder tödlichen Verletzungen führen.
 **VORSICHT**	Nichtbeachtung von mit diesem Symbol gekennzeichneten Anweisungen kann zu Verletzungen oder Sachschäden führen.

WARNUNG

1. Nicht zerlegen.

Das Zerlegen dieses Geräts kann Stromschläge oder Fehlfunktionen nach sich ziehen. Fehlfunktionen und Schäden durch Zerlegung sind nicht von der Garantie abgedeckt. Bauen Sie keine Teile auseinander, außer Sie werden in diesem Handbuch dazu aufgefordert. Wenden Sie sich bei Problemen mit dem Gerät an einen Nikon-Vertreter in Ihrer Nähe.

2. Lesen Sie sich die Anweisungen gründlich durch.

Lesen Sie sich für einen sicheren Gebrauch dieses Handbuch sowie die Handbücher anderer Ausrüstung durch, die mit diesem Gerät verwendet werden soll. Beachten Sie insbesondere die Warn- und Vorsichtshinweise am Anfang der Handbücher.

3. Eingangsspannung, Netzteil, Netzkabel

Das Netzteil für die Stromversorgung dieses Geräts kann mit 100 bis 240 V AC bei 50 bis 60 Hz verwendet werden. Verwenden Sie nur das in Kapitel 7, („Technische Daten“) angegebene Netzteil und Netzkabel. Die Verwendung eines anderen Netzteils oder Netzkabels kann zu Fehlfunktionen oder einem Brand führen.

- Vermeiden Sie den Einsatz des Geräts in einer Umgebung mit übermäßig schwankender Versorgungsspannung.
- Dieses Gerät entspricht der Schutzklasse I gegen Stromschläge. Schließen Sie es immer an eine Erdung an.
- Wenn das Netzteil verdeckt wird oder Gegenstände auf dem Netzteil abgelegt werden, kann dies die Wärmeableitung beeinträchtigen, wodurch das Netzteil ungewöhnlich heiß wird.

4. Umgang mit brennbaren Lösungsmitteln

Die folgenden brennbaren Lösungsmittel werden mit dem Gerät verwendet:

- Immersionsöl (Nikon Immersionsöl für Ölimmersion)
- Ethanol (Ethylalkohol oder Methylalkohol zur Reinigung optischer Bauteile)
- Petroleumbenzin (zum Abwischen des Immersionsöls)
- Medizinischer Alkohol (zur Desinfektion des Mikroskops)

Halten Sie offenes Feuer stets fern von diesen Lösungsmitteln. Lesen Sie sich bei Verwendung eines Lösungsmittels sorgfältig die Herstelleranweisungen durch, und beachten Sie die folgenden Vorsichtsmaßnahmen.

- Halten Sie Lösungsmittel vom Gerät und von dessen Umgebung fern, während Sie das Netzteil oder Netzkabel anschließen oder vom Produkt trennen.
- Verschütten Sie kein Lösungsmittel.

5. Gefährliche Proben

Dieses Mikroskop ist hauptsächlich für die Betrachtung von Proben wie Zellen und Gewebe vorgesehen, die auf einem Objektträger fixiert sind.

Prüfen Sie beim Umgang mit einer Probe, ob diese gefährlich ist. Befolgen Sie beim Umgang mit gefährlichen Proben die Standardverfahren Ihres Labors. Tragen Sie beim Umgang mit ansteckenden Proben Gummihandschuhe, um sich vor Ansteckung zu schützen, und berühren Sie die Probe nicht. Falls eine solche Probe mit dem Mikroskop in Kontakt kommt, dekontaminieren Sie die kontaminierte Stelle entsprechend des Standardverfahrens Ihres Labors.

⚠ WARNUNG

6. Photobiologische Sicherheit

Dieses Gerät entspricht der Sicherheitsnorm IEC 62471 („Photobiologische Sicherheit von Lampen und Lampensystemen“).

Die Beleuchtung des Objekttischs und das Licht vom Kameraport des trinokularen Okularrohrs entsprechen den folgenden Risikogruppen. Der Abstand (Gefahrenabstand) vom Objekttisch oder von der Öffnung des Kameraports, bei dem die Risikogruppenklassifizierung der Ausnahmegruppe entspricht, die keine photobiologischen Schäden verursacht, lautet wie folgt.

	Risikogruppenklassifizierung	**Gefahrenabstand**
Risiko von Netzhautschäden durch blaues Licht	Risikogruppe 1	0,5 m

Beleuchtung in Risikogruppe 1 kann gefährlich sein.

- Achten Sie auf die Helligkeitseinstellung des Helligkeitsreglers, und blicken Sie nicht zu lange in eine starke Lichtquelle.
- Blicken Sie nicht in die Feldlinse. Die LED-Lichtquelle befindet sich unter der Feldlinse.
- Blicken Sie nicht zu lange direkt von oben in starkes Licht vom Kameraport.
- Bringen Sie die im Lieferumfang enthaltene Abdeckung am Kameraport an, wenn Sie die Kamera nicht verwenden.

VORSICHT

1. Zusammenbau des Mikroskops

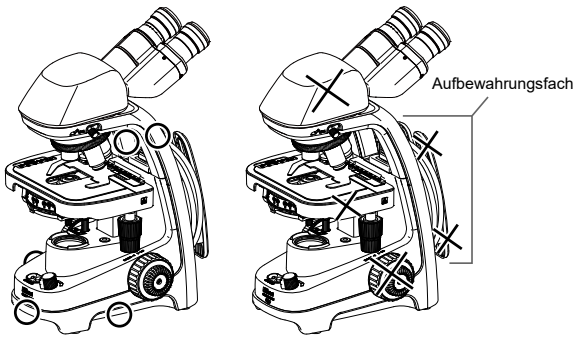
- Bauen Sie das Mikroskop nicht bei angeschlossenem Netzteil zusammen.
- Achten Sie darauf, sich nicht die Finger oder Hände einzuklemmen.

2. Verhindern Sie, dass das Gerät nass wird oder Fremdstoffe in das Gerät eindringen.

Lassen Sie das Gerät nicht nass werden, da dies zu Fehlfunktionen, Überhitzung oder Stromschlägen führen kann. Wenn versehentlich Wasser oder andere Flüssigkeiten auf dem Gerät verschüttet werden, ziehen Sie das Netzkabel sofort vom Netzteil ab. Wischen Sie dann die Flüssigkeit mit einem trockenen Tuch ab. Das Eindringen von Fremdstoffen kann ebenfalls zu Fehlfunktionen führen. Falls Flüssigkeiten oder Fremdstoffe in das Gerät gelangen, stellen Sie den Gebrauch des Geräts ein und wenden Sie sich an Ihren Nikon-Ansprechpartner.

3. Bewegen des Geräts

- Das Mikroskop verfügt über Haltegriffe. Es befinden sich drei Haltegriffe an der Basis und zwei Griffe am Arm des Mikroskops. Halten Sie das Mikroskop beim Tragen fest an diesen Haltegriffen. Das Aufbewahrungsfach auf der Rückseite des Mikroskops ist kein Haltegriff. Halten Sie das Gerät nicht daran fest, da dort das Netzteil und das Netzkabel aufbewahrt werden.
- Halten Sie das Gerät beim Bewegen nicht an den Fokusdrehknöpfen, dem Okularrohr, dem Objekttisch usw. fest. Die Teile können sich lösen oder zu Fehlfunktionen führen.



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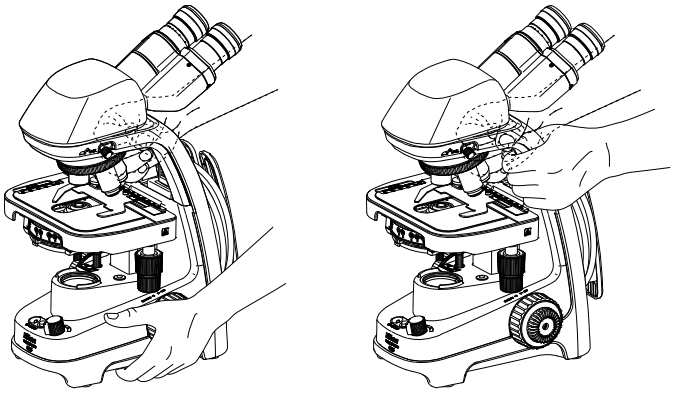


Richtiges Tragen des Geräts

4. Verschieben Sie das Mikroskop nicht versehentlich auf dem Tisch.

Wenn Sie dieses Gerät versehentlich verschieben, könnte es sich auf der Aufstellfläche bewegen. Wir empfehlen, das Gerät mit einem Draht am rückseitigen Sicherheitsschlitz zu befestigen.

5. Entsorgung des Mikroskops

Entsorgen Sie das Mikroskop entsprechend den Standardverfahren zur Entsorgung kontaminierter Geräte in Ihrer Einrichtung, um biologischen Risiken vorzubeugen.

Consignes de sécurité

Ce produit a été conçu et fabriqué de façon à ne présenter aucun risque de sécurité lié à son utilisation. Cependant, une utilisation incorrecte ou le non-respect des consignes de sécurité fournies peut entraîner des blessures ou des dommages matériels. Pour garantir une utilisation correcte, lisez attentivement ce manuel avant d'utiliser le produit. Ne jetez pas ce manuel et gardez-le à portée de main pour pouvoir le consulter facilement.

Signification des symboles utilisés sur le produit

Les symboles qui apparaissent sur le produit indiquent qu'il est nécessaire de faire preuve de prudence à tout moment pendant l'utilisation. Reportez-vous toujours au manuel d'instructions et lisez les instructions correspondantes avant de manipuler toute pièce sur laquelle le symbole a été apposé.

Symbole	Contenu
	**Risque biologique** Ce symbole se trouve sur le boîtier du microscope (côté droit de la platine) et attire l'attention sur les éléments suivants : • AVERTISSEMENT : Le produit peut présenter un risque biologique si un échantillon est renversé sur le produit. • Pour éviter toute exposition à un risque biologique, ne touchez pas les pièces contaminées à mains nues. • Décontaminez les pièces contaminées conformément aux procédures standard de votre établissement.

Symboles AVERTISSEMENT et MISE EN GARDE

Les consignes de sécurité de ce manuel sont signalées par les symboles suivants pour souligner leur importance. Pour votre sécurité, suivez toujours les instructions indiquées par ces symboles.

Symbole	Contenu
AVERTISSEMENT	Le non-respect des instructions signalées par ce symbole peut entraîner des blessures graves, voire mortelles.
MISE EN GARDE	Le non-respect des instructions signalées par ce symbole peut entraîner des blessures ou des dégâts matériels.

AVERTISSEMENT

1. Ne pas démonter.

Le démontage de ce produit peut provoquer une électrocution ou un dysfonctionnement. Les dysfonctionnements et les dommages dus au démontage ne sont pas garantis. Ne démontez aucune pièce à moins d'y être invité dans ce manuel. Si vous rencontrez des problèmes avec le produit, contactez votre représentant Nikon le plus proche.

2. Lisez attentivement les instructions.

Pour des raisons de sécurité, lisez attentivement ce manuel et les manuels des autres équipements à utiliser avec ce produit. Veillez notamment à respecter les avertissements et les mises en garde figurant au début des manuels.

3. Tension d'entrée, adaptateur secteur, câble d'alimentation

L'adaptateur secteur pour l'alimentation de ce produit peut être utilisé avec 100 à 240 VCA, de 50 à 60 Hz. Utilisez uniquement l'adaptateur secteur et le câble d'alimentation spécifiés au chapitre 7, « Spécifications ». L'utilisation d'un autre adaptateur secteur ou câble d'alimentation peut entraîner un dysfonctionnement ou un incendie.

- Évitez d'utiliser le produit dans un environnement où la tension d'alimentation peut fluctuer excessivement.
- Ce produit est catégorisé en classe I pour la protection contre l'électrocution. Veillez à le connecter à une borne de terre de protection.
- Si l'adaptateur secteur est couvert ou si des éléments sont placés sur l'adaptateur secteur, la dissipation de la chaleur peut être limitée, ce qui risque d'entraîner une surchauffe anormale.

4. Manipulation de solvants inflammables

Les solvants inflammables suivants sont utilisés avec le produit :

- Huile d'immersion (huile d'immersion Nikon pour les objectifs à immersion d'huile)
- Alcool absolu (alcool éthylique ou alcool méthylique pour le nettoyage des pièces optiques)
- Essence de pétrole (pour essuyer l'huile d'immersion)
- Alcool médical (pour la désinfection du microscope)

Ne tenez jamais une flamme à proximité de ces solvants. Si vous utilisez un solvant, veuillez lire attentivement les instructions fournies par le fabricant et respecter les précautions suivantes.

- Tenez les solvants à l'écart du produit et de son environnement lorsque vous branchez/débranchez l'adaptateur secteur ou le câble d'alimentation.
- Veillez à ne pas renverser les solvants.

5. Échantillons dangereux

Ce microscope est principalement destiné à l'observation microscopique d'un échantillon tel que des cellules et des tissus fixés sur une lame.

Lorsque vous manipulez un échantillon, vérifiez si celui-ci est dangereux. Manipulez les échantillons dangereux conformément à la procédure standard de votre laboratoire. Si l'échantillon est de nature infectieuse, portez des gants en caoutchouc pour éviter toute infection et veillez à ne pas toucher l'échantillon. Si un échantillon de ce type entre en contact avec le microscope, décontaminez la partie contaminée conformément à la procédure standard de votre laboratoire.

AVERTISSEMENT

6. Sécurité photobiologique

Ce produit est conçu et fabriqué conformément à la norme de sécurité CEI 62471 « Sécurité photobiologique des lampes et des appareils utilisant des lampes ».

L'éclairage à proximité de la platine et la lumière provenant du port de caméra du tube d'oculaire trinoculaire sont catégorisés dans le groupe de risque suivant. La distance (distance de sécurité) par rapport à la platine ou à l'ouverture du port de caméra, où la classification du groupe de risque est équivalente au groupe exempté qui ne cause pas de blessure photobiologique, est la suivante.

	Classification du groupe de risques	**Distance de sécurité**
Risques pour la rétine liés à la lumière bleue	Groupe de risque 1	0,5 m

L'éclairage des appareils du groupe de risque 1 peut être dangereux.

- Faites attention au réglage de la luminosité à l'aide du bouton de réglage correspondant et évitez de regarder une source forte de lumière pendant une période prolongée.
- Ne regardez dans l'objectif de champ. La source lumineuse à LED est intégrée sous l'objectif de champ.
- Ne regardez pas la lumière puissante du port de caméra directement par au-dessus pendant une période prolongée.
- Si vous ne branchez pas la caméra, mettez en place le capuchon fourni sur le port de caméra.

MISE EN GARDE

1. Assemblage du microscope

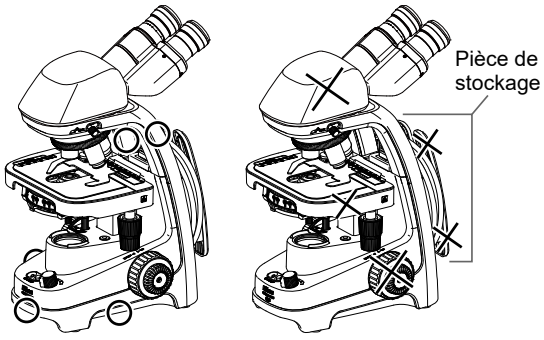
- Assemblez le microscope lorsque l'adaptateur secteur n'est pas connecté.
- Veillez à ne pas vous pincer les doigts ni les mains.

2. Maintenez le produit à l'abri de l'humidité et ne laissez pas pénétrer de corps étrangers.

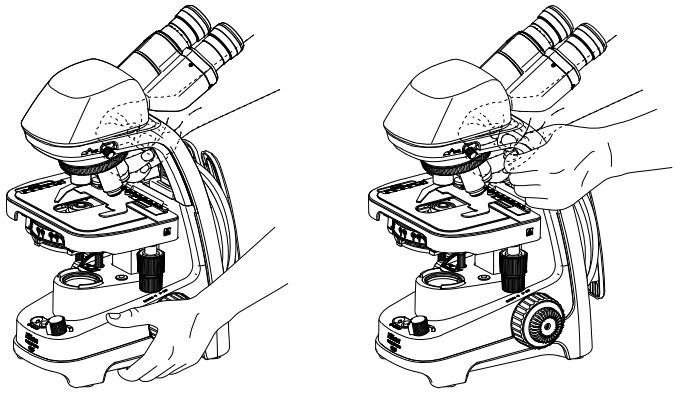
Maintenez le produit à l'abri de l'humidité afin d'éviter tout dysfonctionnement, surchauffe ou électrocution. Si de l'eau ou d'autres liquides sont accidentellement renversés sur le produit, débranchez immédiatement le câble d'alimentation de l'adaptateur secteur. Essuyez ensuite le liquide à l'aide d'un chiffon sec. La pénétration de corps étrangers peut également entraîner un dysfonctionnement. Si des liquides ou des corps étrangers pénètrent dans le produit, cessez d'utiliser le produit et contactez votre représentant Nikon le plus proche.

3. Déplacement du produit

- Le microscope est doté de poignées de transport.
  Trois poignées sur la base et deux poignées sur le bras du microscope.
  Lorsque vous transportez le microscope, tenez-le fermement par ces poignées.
  La pièce de stockage à l'arrière du microscope n'est pas une poignée. Ne tenez pas cette pièce car elle permet de ranger l'adaptateur secteur et le câble d'alimentation.
- Lorsque vous déplacez le produit, ne le tenez pas par les boutons de mise au point, le tube d'oculaire, la platine, etc. Les pièces peuvent se détacher et provoquer des dysfonctionnements.



Par où tenir le microscope : O
Par où ne pas tenir le microscope : ×



Façon correcte de tenir le microscope

4. Ne poussez pas accidentellement le microscope sur la table.

Si vous poussez ce produit par inadvertance, il risque de se déplacer sur la surface d'installation. Nous vous recommandons de passer un câble dans la fente de sécurité située à l'arrière de ce produit pour le sécuriser.

5. Mise au rebut du microscope

Pour éviter tout risque biologique, mettez le microscope au rebut comme un équipement contaminé, conformément aux procédures standard de votre établissement.

Precauciones de seguridad

Aunque el proceso de diseño y fabricación de este producto garantiza su uso seguro, si lo utiliza de forma incorrecta o no sigue las instrucciones de seguridad indicadas se pueden producir lesiones personales o daños materiales. Para garantizar su uso correcto, lea atentamente este manual antes de utilizar el producto. No deseche este manual y manténgalo a mano para facilitar su consulta.

Significado de los símbolos utilizados en el producto

Los símbolos que aparecen en el producto indican que debe usar el producto con precaución en todo momento. Consulte siempre el manual de instrucciones y lea las instrucciones correspondientes antes de manipular cualquier pieza en la que se haya colocado el símbolo.

Símbolo	Explicación
	**Peligro biológico** Este símbolo se puede encontrar en el cuerpo del microscopio (pletina derecha) y advierte de lo siguiente: • ADVERTENCIA: El producto puede llegar a ser un peligro biológico si se derrama una muestra sobre el producto. • Para evitar la exposición al peligro biológico, no toque las piezas contaminadas sin guantes. • Descontamine las piezas contaminadas de acuerdo con los procedimientos habituales de su centro.

Símbolos DE ADVERTENCIA y PRECAUCIÓN

Las instrucciones de seguridad de este manual están marcadas con los siguientes símbolos para destacar su importancia. Para garantizar su seguridad, siga siempre las instrucciones marcadas con estos símbolos.

Símbolo	Explicación
 **ADVERTENCIA**	Si no se tienen en cuenta las instrucciones que indica este símbolo, pueden producirse lesiones graves o la muerte.
 **PRECAUCIÓN**	Si no se tienen en cuenta las instrucciones que indica este símbolo, pueden producirse lesiones o daños materiales.

ADVERTENCIA

1. No desmonte el producto.

Si desmonta este producto, se pueden producir descargas eléctricas o es posible que dicho producto no funcione correctamente. Las averías y los daños ocasionados debidos al desmontaje del producto no están cubiertos por la garantía. No desmonte ninguna pieza a menos que se indique en este manual. Si tiene problemas con el producto, póngase en contacto con el representante de Nikon más cercano.

2. Lea las instrucciones detenidamente.

Para garantizar la seguridad, lea detenidamente este manual y los manuales del resto de equipos que va a utilizar con este producto. En concreto, asegúrese de seguir las advertencias y las precauciones que aparecen al principio de los manuales.

3. Tensión de entrada, adaptador de CA y cable de alimentación

El adaptador de CA que suministra alimentación a este producto se puede utilizar con entre 100 y 240 V de CA y a entre 50 y 60 Hz. Utilice únicamente el adaptador de CA y el cable de alimentación indicados en el Capítulo 7, "Especificaciones". El uso de un adaptador de CA o cable de alimentación diferentes puede provocar una avería o un incendio.

- No utilice el producto en un entorno en el que la tensión de alimentación pueda fluctuar demasiado.
- Este producto es de Clase I en lo que respecta a la protección contra descargas eléctricas. Conecte siempre el producto a un terminal con puesta a tierra.
- Si el adaptador de CA está cubierto o hay algún componente sobre el adaptador de CA, la disipación del calor puede verse obstaculizada, lo que provoca que se caliente demasiado.

4. Manipulación de disolventes inflamables

Se utilizan los siguientes disolventes inflamables con el producto:

- Aceite de inmersión (aceite de inmersión Nikon para objetivos de inmersión en aceite)
- Alcohol absoluto (alcohol etílico o alcohol metílico para limpiar los componentes ópticos)
- Bencina de petróleo (para eliminar el aceite de inmersión)
- Alcohol de uso médico (para desinfectar el microscopio)

No sostenga nunca una llama cerca de estos disolventes. Si utiliza un disolvente, lea detenidamente las instrucciones proporcionadas por el fabricante y aplique las siguientes precauciones.

- Cuando vaya a enchufar/desenchufar el adaptador de CA o el cable de alimentación, mantenga los disolventes alejados del producto y de la zona circundante.
- No derrame los disolventes.

5. Muestras peligrosas

Este microscopio se utiliza principalmente en la observación microscópica de muestras, como células y tejidos adheridos a un portaobjetos.

Si va a manipular una muestra, compruebe si es peligrosa. Manipule las muestras peligrosas de acuerdo con el procedimiento habitual de su laboratorio. Si la muestra es infecciosa, use guantes de goma para evitar infecciones y no toque la muestra. Si dicha muestra entra en contacto con el microscopio, descontamine la parte contaminada de acuerdo con el procedimiento habitual de su laboratorio.

ADVERTENCIA

6. Seguridad fotobiológica

Este producto se ha diseñado y fabricado de acuerdo con la norma de seguridad IEC 62471 "Seguridad fotobiológica de lámparas y de los aparatos que utilizan lámparas".

La luz que hay alrededor de la pletina y la procedente del puerto de la cámara del tubo trinocular se incluyen en el siguiente grupo de riesgo. La distancia (distancia de peligro) desde la zona de alrededor de la pletina o desde la abertura del puerto de la cámara en la que se aplica la clasificación de grupo exento de riesgo que no produce lesiones fotobiológicas es la siguiente.

	Clasificación de grupo de riesgo	**Distancia de peligro**
Peligro de luz azul para la retina	Grupo de riesgo 1	0,5 m

La luz en el grupo de riesgo 1 puede ser peligrosa.

- Ajuste cuidadosamente el brillo con el botón de control de brillo y no mire hacia luz intensa durante mucho tiempo.
- No mire a la lente de campo. Debajo de la lente de campo hay una fuente de luz LED.
- No mire directamente desde arriba hacia la luz intensa procedente del puerto de la cámara durante mucho tiempo.
- Si no conecta la cámara, coloque la tapa suministrada en el puerto de la cámara.

PRECAUCIÓN

1. Montaje del microscopio

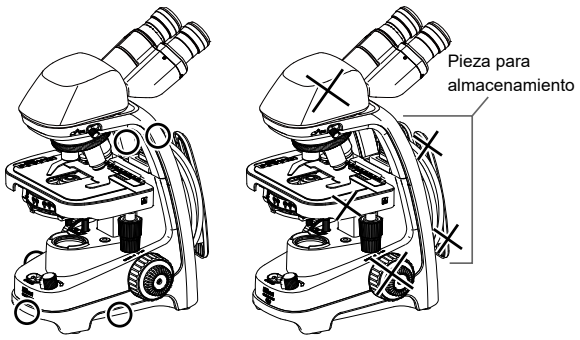
- Monte el microscopio sin conectar el adaptador de CA.
- Tenga cuidado de no pillarse los dedos ni las manos.

2. No moje el producto ni deje que entren cuerpos extraños.

No deje que el producto se moje, ya que se podrían producir averías, sobrecalentamiento o descargas eléctricas. Si se derraman accidentalmente agua u otros líquidos sobre el producto, desenchufe inmediatamente el cable de alimentación del adaptador de CA. A continuación, retire el líquido con un paño seco. La entrada de cuerpos extraños también puede provocar averías. Si entran líquidos o cuerpos extraños en el producto, deje de usarlo y póngase en contacto con su representante de Nikon más cercano.

3. Transporte del producto

- El microscopio tiene varias asas de transporte.
  Hay tres asas en la basa y dos en el brazo del microscopio.
  Para transportar el microscopio, cójalo por dichas asas.
  La pieza para almacenamiento de la parte posterior del microscopio no es un asa. No coja el microscopio por esta pieza, ya que ahí se guardan el adaptador de CA y el cable de alimentación.



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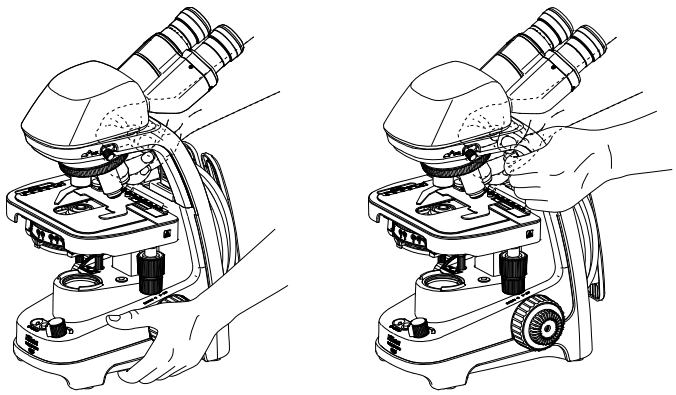
- Si va a transportar el producto, no lo coja por los tornillos, el tubo ocular, la pletina, etc. Es posible que estas piezas se suelten o también que se producción averías.



Forma correcta de transportarlo

4. No empuje accidentalmente el microscopio sobre la mesa.

Si empuja este producto accidentalmente, podría desplazar por la superficie. Le recomendamos que conecte un cable a la ranura de seguridad de la parte trasera de este producto para fijarlo.

5. Eliminación del microscopio

Para evitar peligros biológicos, deseche el microscopio como equipo contaminado de acuerdo con los procedimientos habituales de su centro.

Precauzioni per la sicurezza

Sebbene questo prodotto sia stato progettato e realizzato per garantire la massima sicurezza durante l'uso, l'utilizzo non corretto o il mancato rispetto delle istruzioni di sicurezza possono causare lesioni personali o danni alla proprietà. Per garantire un utilizzo corretto, leggere attentamente il presente manuale prima di utilizzare il prodotto. Conservare il manuale e tenerlo a portata di mano per consultarlo in caso di necessità.

Spiegazione dei simboli riportati sul prodotto

I simboli riportati sul prodotto indicano la necessità di prestare attenzione durante l'uso dello stesso. Consultare sempre il manuale di istruzioni e leggere le indicazioni pertinenti prima di utilizzare qualsiasi parte su cui è riportato il simbolo.

Simbolo	Spiegazione
	**Rischio biologico** Questo simbolo può essere riportato sul corpo del microscopio (lato destro del piano) e indica quanto segue: • AVVERTENZA: l'eventuale contatto con un campione può rendere il prodotto biotossico. • Per evitare possibili esposizioni a rischi biologici, non toccare le parti contaminate a mani nude. • Decontaminare le parti seguendo le procedure standard in uso presso il proprio laboratorio.

Simboli di AVVERTENZA e ATTENZIONE

Le istruzioni di sicurezza riportate nel presente manuale sono contrassegnate con i seguenti simboli per evidenziarne l'importanza. Per garantire la propria sicurezza, seguire sempre le istruzioni contrassegnate con questi simboli.

Simbolo	Spiegazione
 **AVVERTENZA**	Il mancato rispetto delle istruzioni contrassegnate con questo simbolo può causare lesioni personali gravi o mortali.
 **ATTENZIONE**	Il mancato rispetto delle istruzioni contrassegnate con questo simbolo può causare lesioni personali o danni alla proprietà.

AVVERTENZA

1. Non smontare il prodotto.

Lo smontaggio può causare elettrocuzione o malfunzionamenti. Eventuali malfunzionamenti e danni derivanti dallo smontaggio del prodotto non sono coperti dalla garanzia. Non smontare nessuna parte, tranne se espressamente indicato nel presente manuale. In caso di problemi con il prodotto, contattare il rappresentante Nikon di zona.

2. Leggere attentamente le istruzioni.

Per garantire la propria sicurezza, leggere attentamente il presente manuale e i manuali relativi agli altri strumenti da utilizzare con il prodotto. In particolare, seguire le indicazioni di avvertenza e di attenzione riportate all'inizio dei manuali.

3. Tensione in ingresso, adattatore CA, cavo di alimentazione

L'adattatore CA del prodotto può essere utilizzato con una tensione in ingresso compresa tra 100 e 240 VCA a 50-60 Hz. Utilizzare esclusivamente l'adattatore CA e il cavo di alimentazione specificati nel Capitolo 7, "Specifiche". L'uso di un adattatore CA o di un cavo di alimentazione di tipo diverso può causare malfunzionamenti o incendi.

- Evitare di utilizzare il prodotto in ambienti soggetti a forti variazioni della tensione di alimentazione.
- Il prodotto è classificato come apparecchio di Classe 1 per la protezione da scosse elettriche. Accertarsi di collegarlo a un terminale di messa a terra di protezione.
- Coprire l'adattatore CA o collocarvi degli oggetti potrebbe ridurre la dissipazione di calore e causarne il surriscaldamento.

4. Trattamento dei solventi infiammabili

I seguenti solventi infiammabili sono utilizzati con il prodotto:

- Olio per immersione (olio per immersione Nikon)
- Alcool puro (etilico o metilico per la pulizia dei componenti ottici)
- Benzina (per rimuovere l'olio per immersione)
- Alcool medico (per disinfettare il microscopio)

Non avvicinare mai fiamme ai solventi. Quando si utilizza un solvente, leggere attentamente le istruzioni del produttore e adottare le seguenti precauzioni.

- Tenere i solventi lontani dal prodotto e dalle aree circostanti durante le operazioni di collegamento/scollegamento dell'adattatore CA o del cavo di alimentazione.
- Fare attenzione a non rovesciare i solventi.

5. Campioni pericolosi

Il microscopio è destinato principalmente all'osservazione di campioni come cellule e tessuti su vetrino.

Durante la manipolazione di un campione, verificarne la pericolosità. Maneggiare i campioni pericolosi secondo la procedura standard in uso presso il proprio laboratorio. Se il campione è infettivo, indossare dei guanti di gomma per evitare infezioni e fare attenzione a non entrare in contatto con lo stesso. Se un campione di questo tipo entra a contatto con il microscopio, decontaminare la parte interessata seguendo la procedura standard in uso presso il proprio laboratorio.

AVVERTENZA

6. Sicurezza fotobiologica

Questo prodotto è progettato e prodotto nel rispetto della norma di sicurezza IEC 62471 "Sicurezza fotobiologica delle lampade e dei sistemi di lampade".

L'illuminazione in prossimità del piano e la luce proveniente dalla porta della telecamera del tubo trinoculare sono classificate nel seguente gruppo di rischio. La distanza (distanza di pericolo) dal piano o dall'apertura della porta della telecamera in cui la classificazione del gruppo di rischio è equivalente al gruppo esente che non causa lesioni fotobiologiche è la seguente.

	Classificazione gruppo di rischio	**Distanza di pericolo**
Rischio da luce blu	Gruppo di rischio 1	0,5 m

L'illuminazione nel gruppo di rischio 1 può essere pericolosa.

- Fare attenzione durante la regolazione della luminosità tramite l'apposita manopola ed evitare di fissare una luce intensa per un periodo prolungato.
- Non guardare nell'obiettivo del campo. La sorgente luminosa LED è integrata sotto l'obiettivo.
- Non fissare dall'alto la luce intensa proveniente dalla porta della telecamera per un periodo prolungato.
- Quando non si collega la telecamera, coprire la porta con l'apposito coperchio fornito in dotazione.

ATTENZIONE

1. Montaggio del microscopio

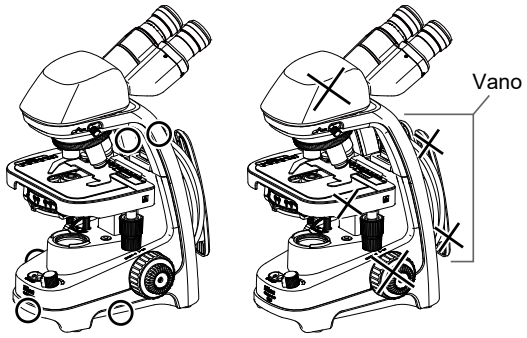
- Montare il microscopio con l'adattatore CA non collegato.
- Fare attenzione a non schiacciare le dita e le mani.

2. Non bagnare il prodotto ed evitare l'ingresso di corpi estranei.

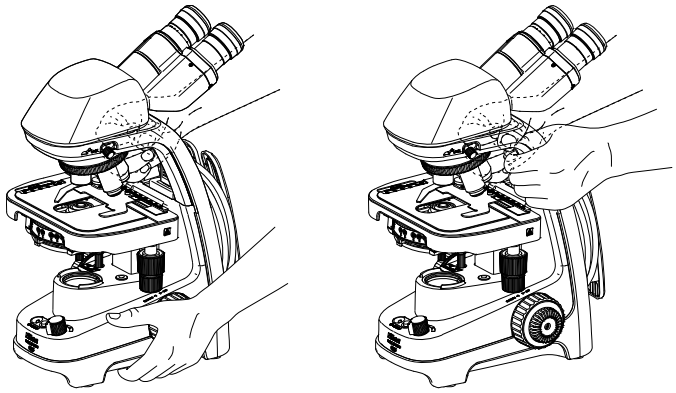
Assicurarsi che il prodotto non si bagni per evitare malfunzionamenti, surriscaldamento o elettrocuzione. Se acqua o altri liquidi vengono accidentalmente versati sul prodotto, estrarre immediatamente il cavo di alimentazione dall'adattatore CA, quindi rimuovere il liquido con un panno asciutto. Anche l'ingresso di corpi estranei può determinare malfunzionamenti. Se liquidi o corpi estranei entrano nel prodotto, interromperne l'uso e contattare il rappresentante Nikon di zona.

3. Trasporto del prodotto

- Il microscopio è dotato di rientranze e manici. Sono presenti tre rientranze alla base e due manici sul braccio del microscopio.
  Per trasportare il microscopio, afferralo saldamente dai manici e dalle rientranze.
  Il vano sulla parte posteriore del microscopio non è un manico. Non afferrarlo poiché viene utilizzato per riporre il cavo e l'adattatore CA.
- Per spostare il prodotto, non afferrare le manopole per la messa a fuoco, il tubo oculare, il piano, ecc. Queste parti possono staccarsi, causando malfunzionamenti.



Parte da afferrare: ○
Parte da non afferrare: ×



Modo corretto per afferrare il prodotto

4. Non spingere inavvertitamente il microscopio sul piano.

Se viene spinto inavvertitamente, il prodotto può spostarsi sulla superficie di installazione. Si consiglia di agganciare un cavo alla fessura di sicurezza sul retro del prodotto per fissarlo in posizione.

5. Smaltimento del microscopio

Per evitare rischi biologici, smaltire il microscopio come rifiuto contaminato, in base alle procedure standard in uso presso il proprio laboratorio.

Veiligheidsvoorschriften

Dit product is ontworpen voor veilig gebruik. Onjuist gebruik of het niet opvolgen van de veiligheidsvoorschriften kan leiden tot persoonlijk letsel of schade aan uw eigendom. Lees deze handleiding zorgvuldig voordat u het product in gebruik neemt voor een veilig gebruik. Bewaar deze handleiding voor een snelle raadpleging.

De betekenis van de symbolen op het product

De symbolen op het product geven aan dat het product zorgvuldig moet worden gebruikt. Raadpleeg de instructiehandleiding en lees de relevante instructies door voordat u aan de slag gaat met een onderdeel van het product waarop het symbool is aangebracht.

Symbool	Inhoud
	**Biologisch gevaar** Dit symbool bevindt zich op de behuizing van de microscoop (aan de rechterkant van de objecttafel) en waarschuwt voor het volgende: • WAARSCHUWING: Het product kan biologisch gevaarlijk zijn wanneer een monster op het product wordt gemorst. • Om blootstelling aan biologisch gevaar te voorkomen, moet u de besmette onderdelen niet met blote handen aanraken. • Reinig de besmette onderdelen volgens de standaardprocedures van uw faciliteit.

De symbolen WAARSCHUWING en LET OP

De veiligheidsinstructies in deze handleiding zijn gemarkeerd met de volgende symbolen om het belang ervan te benadrukken. Volg voor uw veiligheid altijd de aanwijzingen die met deze symbolen zijn gemarkeerd.

Symbool	Inhoud
WAARSCHUWING	Het niet opvolgen van de aanwijzingen bij dit symbool kan leiden tot ernstig letsel of de dood.
LET OP	Het niet opvolgen van de aanwijzingen bij dit symbool kan leiden tot letsel of schade aan eigendommen.

WAARSCHUWING

1. Niet demonteren.

Als u dit product demonteert, kan het product defect raken of kunt u een elektrische schok krijgen. Storingen en schade als gevolg van het demonteren van het product vallen niet onder de garantie. Demonteer geen onderdelen van dit product tenzij de instructies dit duidelijk aangeven. Wanneer u problemen ondervindt met het product, neemt u contact op met de Nikon-vertegenwoordiger bij u in de buurt.

2. Lees de instructies aandachtig door.

Lees voor uw veiligheid deze handleiding aandachtig door, alsmede de handleidingen voor andere apparatuur die u samen met dit product gebruikt. Volg met name de waarschuwingen en adviezen aann het begin van de handleidingen op.

3. Ingangsspanning, lichtnetadapter en netsnoer

De lichtnetadapter van dit product is geschikt voor 100 tot 240 VAC, 50/60 Hz. Gebruik alleen de lichtnetadapter en het netsnoer zoals gespecificeerd in Hoofdstuk 7, Specificaties. Het gebruik van een andere lichtnetadapter of een ander netsnoer kan leiden tot storingen of brand.

- Gebruik het product niet in een omgeving waar de ingangsspanning sterk fluctueert.
- Dit product is geclassificeerd als Klasse I voor bescherming tegen elektrische schokken. Sluit het product aan op een geaard stopcontact.
- Wanneer de lichtnetadapter is bedekt tijdens het gebruik, kan de warmteafvoer worden belemmerd, waardoor de lichtnetadapter abnormaal heet wordt.

4. Omgaan met brandbare oplosmiddelen

De volgende brandbare oplosmiddelen worden met het product gebruikt:

- Olie-immersie (Nikon olie-immersie voor olie-immersie objectieven)
- Pure alcohol (ethylalcohol of methanol voor het reinigen van optische onderdelen)
- Petroleumbenzine (voor het verwijderen van de olie-immersie)
- Medische alcohol (voor het desinfecteren van de microscoop)

Houd geen vlam in de buurt van deze oplosmiddelen. Lees voor het gebruik van een oplosmiddel de instructies van de fabrikant aandachtig door en neem de volgende voorzorgsmaatregelen in acht.

- Houd oplosmiddelen uit de buurt van het product wanneer u de lichtnetadapter of het netsnoer aansluit of loskoppelt.
- Zorg ervoor dat u geen oplosmiddelen morst.

5. Gevaarlijke monsters

De microscoop is bedoeld voor microscopische waarneming van een monster, zoals cellen en weefsels op het objectglas.

Wanneer u werkt met een monster, moet u controleren of het monster gevaarlijk is. Volg de standaardprocedure van uw laboratorium wanneer u met gevaarlijke monsters werkt. Als het monster van besmettelijke aard is, moet u rubberen handschoenen dragen om infecties te voorkomen. Vermijd contact met het monster. Wanneer een dergelijk monster in contact met de microscoop komt, moet u het besmette gedeelte ontsmetten volgens de standaardprocedure van uw laboratorium.

⚠ WAARSCHUWING

6. Fotobiologische veiligheid

Dit product is ontworpen en gemaakt in overeenstemming met IEC-standaard 62471, Fotobiologische veiligheid van lampen en lampsystemen.

De verlichting in de buurt van het statief en het licht van de camerapoort of de trinoculaire tubus zijn geclassificeerd in de volgende risicogroep. De afstand (gevaarlijke afstand) van het statief of van de opening van de camerapoort waar de classificatie van risicogroepen equivalent is aan de vrijgestelde groep die geen fotobiologisch letsel veroorzaakt is als volgt.

	Classificatie van risicogroep	**Gevaarlijke afstand**
Gevaar van blauw licht voor het netvlies	Risicogroep 1	0,5 m

Verlichting in risicogroep 1 kan gevaarlijk zijn.

- Stel de verlichting juist af met de verlichtingsknop en kijk niet te lang in fel licht.
- Kijk niet in de veldlens. De ledlichtbron bevindt zich onder de veldlens.
- Kijk niet te lang in het felle licht van de camerapoort of direct boven de camerapoort.
- Wanneer de camera niet is bevestigd, moet u de dop op de camerapoort doen.

LET OP

1. Het monteren van de microscoop

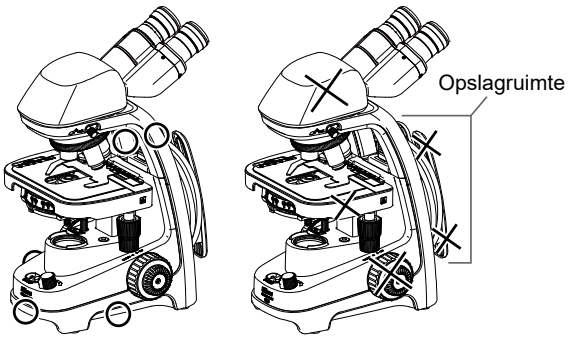
- Wanneer u de microscoop monteert, moet de lichtnetadapter niet zijn aangesloten.
- Zorg ervoor dat uw vingers en handen niet bekneld raken tijdens de montage.

2. Zorg dat het product niet nat wordt of dat er vreemde objecten in het product terechtkomen.

Zorg ervoor dat het product niet nat wordt. Dit kan namelijk leiden tot storingen, oververhitting of een elektrische schok. Wanneer u per ongeluk water of een andere vloeistof op het product morst, trek dan onmiddellijk de stekker van de netadapter uit het stopcontact. Veeg de vloeistof met een droge doek weg. Vreemde objecten in het product kunnen leiden tot storingen. Wanneer vloeistof of een vreemd object in het product terechtkomt, moet u het gebruik direct staken en contact opnemen met een Nikon-vertegenwoordiger bij u in de buurt.

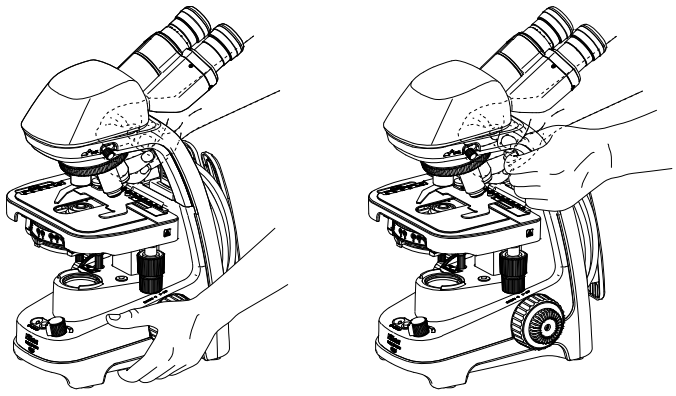
3. Het product verplaatsen

- De microscoop heeft handgrepen om het product te verplaatsen.
  Er bevinden zich drie handgrepen aan de voet van de microscoop en twee handgrepen aan de arm van de microscoop.
  Gebruik deze handgrepen bij het verplaatsen van de microscoop.
  De opslagruimte aan de achterkant van de microscoop is géén handgreep. Deze ruimte is bedoeld voor het opbergen van de lichtnetadapter en het netsnoer. Houd de microscoop tijdens het verplaatsen niet aan dit gedeelte vast.



Gedeelten waar u de microscoop moet vasthouden: ○
Gedeelten waar u de microscoop niet moet vasthouden: ×

- Wanneer u de microscoop verplaatst, moet u deze niet bij de instelknoppen, het oculair, het platform, enzovoort vasthouden. Deze onderdelen kunnen losraken en leiden tot storingen.



De juiste manier om de microscoop vast te houden

4. Duw niet per ongeluk tegen de microscoop op de tafel.

Wanneer u per ongeluk tegen de microscoop duwt, wordt deze mogelijk verplaatst op de tafel. Het wordt aanbevolen een kabel door de beveiligingssleuf aan de achterkant van de microscoop te halen om de microscoop te fixeren.

5. De microscoop afvoeren

Om biologisch gevaar te vermijden, moet de microscoop worden verwijderd als verontreinigde apparatuur volgens de standaardprocedures van uw faciliteit.

Sikkerhedsforanstaltninger

Selvom dette produkt er designet og fremstillet til at være helt sikkert under brug, kan forkert brug eller manglende overholdelse af de medfølgende sikkerhedsanvisninger forårsage personskade eller tingsskade. Læs denne vejledning omhyggeligt, før du bruger produktet, for at sikre korrekt brug. Denne vejledning må ikke kasseres, og den skal opbevares, så den altid er tilgængelig.

Betydning af symboler anvendt på produktet

Symboler, der vises på produktet, angiver, at der altid er behov for forsigtighed under brug. Se altid i brugervejledningen, og læs de relevante instruktioner inden håndtering af de dele, som symbolet er påsat.

Symbol	Indhold
	**Miljøfare** Dette symbol findes på mikroskopets hoveddel (højre side af krydsbordet) og advarer om følgende: • ADVARSEL: Produktet kan udgøre en fare for miljøet, hvis der spildes en prøve på produktet. • Undgå at berøre forurenede dele med bare hænder for at undgå smittefare. • Desinficer de forurenede dele i henhold til standardprocedurerne på stedet.

Symbolerne ADVARSEL og FORSIGTIG

Sikkerhedsanvisningerne i denne vejledning er mærket med følgende symboler for at fremhæve vigtigheden af dem. Af hensyn til din sikkerhed skal du altid følge de anvisninger, der er markeret med disse symboler.

Symbol	Indhold
 **ADVARSEL**	Hvis de anvisninger, der er markeret med dette symbol, ignoreres, kan det medføre alvorlig personskade eller dødsfald.
 **FORSIGTIG**	Hvis de anvisninger, der er markeret med dette symbol, ignoreres, kan det medføre personskade eller tingsskade.

ADVARSEL

1. Skil ikke produktet ad.

Hvis dette produkt skilles ad, kan det medføre elektrisk stød eller fejlfunktion. Fejl og skader som følge af demontering er ikke dækket af garantien. Demonter ikke nogen del, medmindre du bliver bedt om det i denne vejledning. Hvis du oplever problemer med produktet, skal du kontakte din nærmeste Nikon-repræsentant.

2. Læs instruktionerne grundigt.

For at sikre sikkerheden skal du læse denne vejledning samt vejledninger til andet udstyr, der skal bruges sammen med dette produkt, grundigt igennem. Sørg især for at følge advarslerne og advarslerne i begyndelsen af vejledningerne.

3. Indgangsspænding, AC-adapter, netledning

AC-adapteren til strømforsyning af dette produkt kan bruges med 100 til 240 VAC ved 50 til 60 Hz. Brug kun den vekselstrømsadapter og netledning, der er angivet i kapitel 7, "Specifikationer". Brug af en anden vekselstrømsadapter eller netledning kan medføre fejlfunktion eller brand.

- Undgå at bruge produktet i et miljø, hvor forsyningsspændingen kan svinge meget.
- Dette produkt er klassificeret som Klasse I mht. beskyttelse mod elektrisk stød. Sørg for at slutte det til en beskyttende jordklemme.
- Hvis vekselstrømsadapteren er tildækket, eller der er placeret genstande på vekselstrømsadapteren, kan det hindre varmeafledning, så produktet bliver unormalt varmt.

4. Håndtering af brændbare opløsningsmidler

Følgende brændbare opløsningsmidler anvendes sammen med produktet:

- Immersionsolie (Nikon-immersionsolie til objektiver, der skal nedsænkes i olie)
- Ren alkohol (ætylalkohol eller metylalkohol til rengøring af optiske dele)
- Petroleumsbenzin (til aftørring af immersionsolien)
- Medicinsk alkohol (til desinfektion af mikroskopet)

Der må aldrig være åben ild i nærheden af disse opløsningsmidler. Når der anvendes et opløsningsmiddel, skal producentens anvisninger læses grundigt igennem, og følgende forholdsregler skal overholdes.

- Hold opløsningsmidler væk fra produktet og dets omgivelser, når du sætter AC-adapteren eller netledningen i eller tager den ud.
- Pas på ikke at spilde opløsningsmidlerne.

5. Farlige prøver

Mikroskopet er primært til brug ved mikroskopisk observation af en prøve af f.eks. celler og væv anbragt på et objektglas.

Ved håndtering af en prøve skal det kontrolleres, om prøven er farlig. Håndter farlige prøver i henhold til standardproceduren for dit laboratorium. Hvis prøven er smitsom, skal du bære gummihandsker for at undgå infektion og undgå at røre ved prøven. Hvis en sådan prøve kommer i kontakt med mikroskopet, skal den forurenede del desinficeres i henhold til standardproceduren for dit laboratorium.

ADVARSEL

6. Fotobiologisk sikkerhed

Dette produkt er designet og fremstillet i overensstemmelse med sikkerhedsstandarden IEC 62471 "Fotobiologisk sikkerhed for lamper og lampesystemer".

Belysning i nærheden af krydsbordet og lys fra kameraporten på det trinokulære okularrør er klassificeret i følgende risikogruppe. Afstanden (risikoafstanden) fra området omkring krydsbordet eller kameraportens åbning, hvor risikogruppeklassifikationen svarer til den undtagelsesgruppe, der ikke forårsager fotobiologisk skade, er som anført herunder.

	Klassificering af risikogruppe	**Risikoafstand**
Fare for nethinden i forbindelse med blålys	Risikogruppe 1	0,5 m

Belysning i risikogruppe 1 kan være farligt.

- Vær opmærksom på lysstyrkejustering ved hjælp af lysstyrkereguleringen, og undgå at se ind i stærkt lys i lang tid.
- Se ikke ind i forlinsen. LED-lyskilden er indbygget under forlinsen.
- Se ikke ind i stærkt lys fra kameraporten lige ovenfra i længere tid.
- Når kameraet ikke er tilsluttet, skal du sætte det medfølgende dæksel på kameraporten.

⚠ FORSIGTIG

1. Samling af mikroskopet

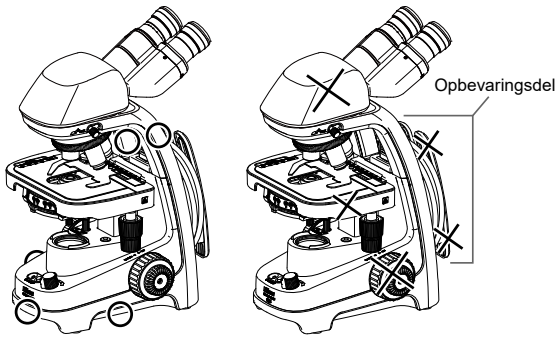
- Saml mikroskopet, mens AC-adapteren ikke er tilsluttet det.
- Pas på ikke at få fingre og hænder i klemme.

2. Gør ikke produktet vådt, og sørg for, at der ikke trænger fremmedlegemer ind.

Lad ikke produktet blive vådt, da det kan medføre funktionsfejl, overophedning eller elektrisk stød. Hvis der ved et uheld spildes vand eller andre væsker på produktet, skal netledningen straks tages ud af vekselstrømsadapteren. Tør derefter væsken af med en tør klud. Indtrængen af fremmedlegemer kan også medføre fejlfunktion. Hvis der kommer væske eller fremmedlegemer ind i produktet, skal du ophøre med at bruge produktet og kontakte den nærmeste Nikon-repræsentant.

3. Flytning af produktet

- Mikroskopet har bærehåndtag og håndtag.
  Der er tre håndtag på basen og to håndtag på mikroskopets arm.
  Når mikroskopet bæres, skal der holdes fast i disse håndtag.
  Opbevaringsdelen på bagsiden af mikroskopet er ikke et håndtag. Hold ikke på denne del, da den indeholder vekselstrømsadapteren og netledningen.
- Når du flytter produktet, må du ikke holde fast i fokuseringsknapper, okularrør og krydsbord osv. Delene kan løsne sig og medføre funktionsfejl.



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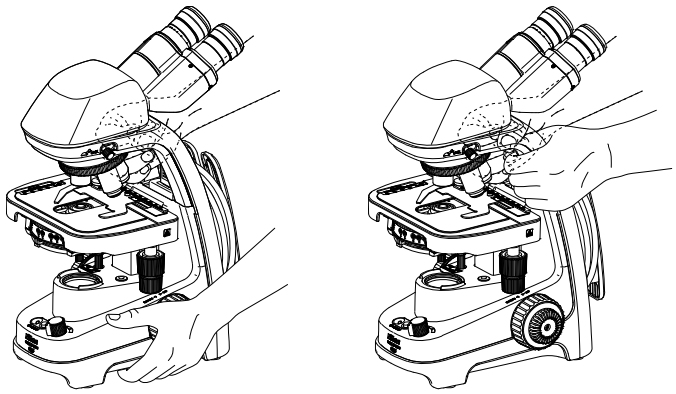


Sådan holdes korrekt

4. Skub ikke utilsigtet mikroskopet på bordet.

Hvis du utilsigtet skubber dette produkt, kan det bevæge sig på installationsfladen. Vi anbefaler, at du fastgør en ledning til sikkerhedsstikket på bagsiden af dette produkt for at fiksere det.

5. Bortskaffelse af mikroskopet

For at undgå risici af miljømæssig karakter skal mikroskopet bortskaffes som forurenet udstyr i henhold til standardprocedurerne på stedet.

Precauções de segurança

Apesar de este produto ser concebido e fabricado para ser totalmente seguro durante a utilização, a utilização incorreta ou o incumprimento das instruções de segurança fornecidas pode causar ferimentos pessoais ou danos materiais. Para garantir uma utilização correta, leia este manual cuidadosamente antes de utilizar o produto. Não deite fora este manual e mantenha-o à mão para uma consulta fácil.

Significado dos símbolos utilizados no produto

Os símbolos que aparecem no produto indicam a necessidade de cuidado constante durante a utilização. Consulte sempre o manual de instruções e leia as instruções relevantes antes de manipular qualquer peça na qual o símbolo tenha sido afixado.

Símbolo	Conteúdo
	**Risco biológico** Este símbolo pode ser encontrado no corpo do microscópio (lado direito da platina) e obriga a ter em atenção o seguinte: • AVISO: O produto pode tornar-se um risco biológico se for derramada uma amostra sobre o produto. • Para evitar a exposição a riscos biológicos, não toque nas peças contaminadas com as mãos desprotegidas. • Descontamine as peças contaminadas de acordo com os procedimentos padrão das suas instalações.

Símbolos de AVISO e de CUIDADO

As instruções de segurança neste manual estão assinaladas com os seguintes símbolos para realçar a sua importância. Para sua segurança, siga sempre as instruções assinaladas com estes símbolos.

Símbolo	Conteúdo
 **AVISO**	O não cumprimento das instruções assinaladas com este símbolo pode provocar ferimentos graves ou morte.
 **CUIDADO**	O não cumprimento das instruções assinaladas com este símbolo pode provocar ferimentos ou danos materiais.

AVISO

1. Não desmonte.

A desmontagem deste produto pode resultar em choques elétricos ou avarias. Avarias e danos resultantes da desmontagem não serão cobertos pela garantia. Não desmonte nenhuma peça, a menos que seja instruído para o fazer neste manual. Se tiver problemas com o produto, contacte o representante da Nikon mais próximo.

2. Leia atentamente as instruções.

Para garantir a segurança, leia atentamente este manual e os manuais de outro equipamento a utilizar com este produto. Em particular, certifique-se de que segue os avisos e as advertências no início dos manuais.

3. Tensão de entrada, adaptador CA, cabo de alimentação

O adaptador CA para fornecer energia a este produto pode ser utilizado com 100 a 240 V CA a 50 a 60 Hz. Utilize apenas o adaptador CA e o cabo de alimentação especificados no Capítulo 7, "Especificações". A utilização de outro adaptador CA ou cabo de alimentação pode resultar em avarias ou incêndio.

- Evite utilizar o produto num ambiente em que a tensão de alimentação possa flutuar excessivamente.
- Este produto está classificado como Classe I para proteção contra choques elétricos. Certifique-se de que o liga a um terminal de terra de proteção.
- Se o adaptador CA estiver coberto ou se forem colocados itens no adaptador CA, a dissipação de calor pode ser dificultada, fazendo com que fique anormalmente quente.

4. Manuseamento de solventes inflamáveis

Os seguintes solventes inflamáveis são utilizados com o produto:

- Óleo de imersão (óleo de imersão Nikon para objetivas de imersão em óleo)
- Álcool absoluto (álcool etílico ou álcool metílico para a limpeza de peças óticas)
- Benzina de petróleo (para limpar o óleo de imersão)
- Álcool medicinal (para desinfetar o microscópio)

Nunca segure uma chama perto destes solventes. Quando utilizar um solvente, leia cuidadosamente as instruções fornecidas pelo fabricante e respeite as seguintes precauções.

- Mantenha os solventes afastados do produto e da área circundante quando ligar/desligar o adaptador CA ou o cabo de alimentação.
- Tenha cuidado para não derramar os solventes.

5. Amostras perigosas

Este microscópio destina-se principalmente a ser utilizado na observação microscópica de uma amostra, como células e tecido afixados numa lâmina.

Ao manusear uma amostra, verifique se esta é perigosa. Deve manusear as amostras perigosas de acordo com o procedimento padrão para o seu laboratório. Se a amostra for de natureza infeciosa, use luvas de borracha para evitar infeções e tenha cuidado para não tocar numa amostra. Se uma amostra deste tipo entrar em contacto com o microscópio, descontamine a parte contaminada de acordo com o procedimento padrão para o seu laboratório.

AVISO

6. Segurança fotobiológica

Este produto foi concebido e fabricado de acordo com a norma de segurança IEC 62471 "Segurança fotobiológica de lâmpadas e sistemas de lâmpadas".

A iluminação junto à platina e a luz da porta da câmara do tubo da ocular trinocular são classificadas no seguinte grupo de risco. A distância (distância de perigo) da proximidade da platina ou da abertura da porta da câmara, onde a classificação do grupo de risco é equivalente ao grupo isento que não provoca lesões fotobiológicas, é a seguinte.

	Classificação do grupo de risco	**Distância de perigo**
Perigo de luz azul retinal	Grupo de risco 1	0,5 m

A iluminação no grupo de risco 1 pode ser perigosa.

- Preste atenção ao ajuste do brilho através do botão de controlo do brilho e evite olhar para uma luz forte durante muito tempo.
- Não olhe para a lente de campo. A fonte de luz LED está incorporada por baixo da lente de campo.
- Não olhe diretamente para a luz forte a partir da porta da câmara por cima durante muito tempo.
- Quando não encaixar a câmara, coloque a tampa fornecida na porta da câmara.

CUIDADO

1. Montagem do microscópio

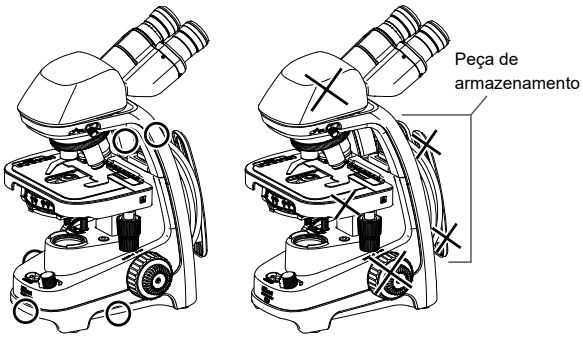
- Monte o microscópio enquanto o adaptador CA não estiver ligado ao mesmo.
- Tenha cuidado para evitar entalar os dedos e as mãos.

2. Não molhe o produto nem permita a entrada de materiais estranhos.

Não deixe que o produto se molhe, pois isso pode resultar em avarias, sobreaquecimento ou choque elétrico. Em caso de derrame acidental de água ou de outros líquidos sobre o produto, desligue imediatamente o cabo de alimentação do adaptador CA. Em seguida, limpe o líquido com um pano seco. A entrada de materiais estranhos também pode resultar em avarias. Se entrarem líquidos ou materiais estranhos no produto, deixe de utilizar o produto e contacte o representante da Nikon mais próximo.

3. Mover o produto

- O microscópio tem pegas e pegas de transporte.
  Existem três pegas na base e duas pegas no braço do microscópio.
  Ao transportar o microscópio, segure-o firmemente com estas pegas.
  A parte de armazenamento na parte de trás do microscópio não é uma pega. Não segure esta peça, pois ela serve para guardar o adaptador CA e o cabo de alimentação.
- Ao mover o produto, não o segure pelos botões de focagem, pelo tubo da ocular e pela platina, etc. As peças podem soltar-se e isso também pode provocar avarias.



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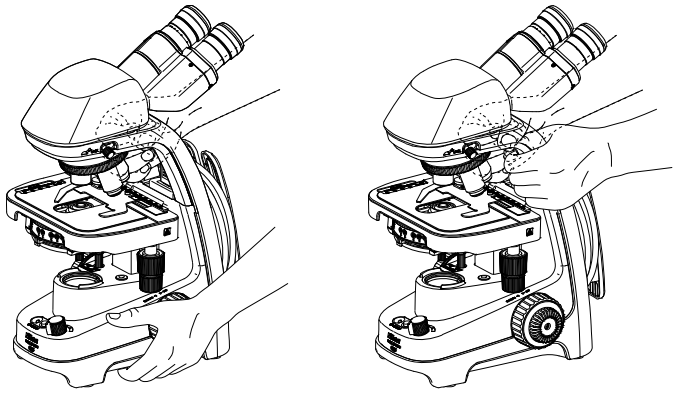


Forma adequada de pegar

4. Não empurre inadvertidamente o microscópio na mesa.

Se empurrar este produto inadvertidamente, este poderá deslocar-se na superfície de instalação. Recomendamos que ligue um fio à ranhura de segurança na parte posterior deste produto para o fixar.

5. Eliminação do microscópio

Para evitar riscos biológicos, elimine o microscópio como equipamento contaminado, de acordo com os procedimentos padrão das suas instalações.

Turvatoimet

Vaikka tämä tuote on suunniteltu ja valmistettu täysin käyttöturvalliseksi, sen virheellinen käyttö tai turvallisuusohjeiden laiminlyönti voi johtaa henkilövahinkoihin tai aineellisiin vahinkoihin. Oikeanlaisen käytön varmistamiseksi tämä opas on luettava huolellisesti ennen tuotteen käyttöä. Opas on myös säilytettävä ja pidettävä helposti saatavilla.

Tuotteessa olevien symbolien selitykset

Tuotteeseen merkityt symbolit osoittavat, että varovaisuutta tarvitaan koko käytön ajan. Ennen kuin käsitellään symbolilla merkittyä tuotteen osaa, käyttöoppaasta on luettava sitä koskevat ohjeet.

Symboli	Sisältö
	**Biologinen vaara** Tämä symboli sijaitsee mikroskoopin rungossa (näytepöydän oikeassa reunassa) ja ilmaisee seuraavan vaaran. • VAKAVA VAROITUS: jos tuotteeseen läikkyy näytettä, se voi muuttua biologisesti vaaralliseksi. • Altistumisen välttämiseksi kontaminoituneita osia ei saa koskettaa paljain käsin. • Kontaminoituneet osat on puhdistettava laitoksen normaalien menettelytapojen mukaisesti.

VAKAVA VAROITUS- ja VAROITUS-symbolit

Tässä käyttöoppaassa turvallisuusohjeiden tärkeyttä on korostettu merkitsemällä ne seuraavilla symboleilla. Turvallisuuden varmistamiseksi näillä symboleilla merkittyjä ohjeita on aina noudatettava.

Symboli	Sisältö
 **VAKAVA VAROITUS**	Tällä symbolilla merkittyjen ohjeiden laiminlyönti voi johtaa vakavaan henkilövahinkoon tai kuolemaan.
 **VAROITUS**	Tällä symbolilla merkittyjen ohjeiden laiminlyönti voi johtaa henkilövahinkoon tai aineelliseen vahinkoon.

VAKAVA VAROITUS

1. Ei saa purkaa.

Tuotteen purkaminen voi aiheuttaa sähköiskun tai toimintahäiriön. Purkamisesta aiheutuvat toimintahäiriöt ja vauriot eivät kuulu tuotetakuun piiriin. Mitään osaa ei saa purkaa, paitsi jos tässä oppaassa erityisesti kehotetaan tekemään niin. Jos tuoteongelmia ilmenee, on otettava yhteys lähimpään Nikonin edustajaan.

2. Ohjeet on luettava huolellisesti.

Turvallisuuden varmistamiseksi käyttäjän on luettava huolellisesti tämä käyttöopas ja tuotteen yhteydessä käytettävien muiden laitteiden käyttöoppaat. Erityistä huomiota on kiinnitettävä oppaiden alussa annettujen vakavien varoitusten ja varoitusten noudattamiseen.

3. Tulojännite, vaihtovirtasovitin, virtajohto

Tuotteen virransyöttöön tarkoitettua vaihtovirtasovitinta voidaan käyttää, kun verkkovirran jännite on 100–240 VAC ja taajuus 50–60 Hz. Tuotteen kanssa saa käyttää vain vaihtovirtasovitinta ja virtajohtoa, jotka on mainittu luvussa 7 Tekniset tiedot. Muiden sovittimien tai johtojen käyttö voi aiheuttaa toimintahäiriön tai tulipalon.

- Vältä tuotteen käyttöä ympäristössä, jossa tulojännite voi vaihdella voimakkaasti.
- Tuote on luokiteltu suojausluokkaan I sähköiskulta suojaamisen suhteen. Varmista, että tuote on yhdistetty suojamaadoitusliittimeen.
- Jos vaihtovirtasovitin peitetään tai sen päälle asetetaan esineitä, lämmön haihtuminen voi estyä ja aiheuttaa sovittimen epätavallisen kuumenemisen.

4. Syttyvien liuottimien käsittely

Tuotteen yhteydessä käytetään seuraavia syttyviä liuottimia:

- immersioöljy (Nikon-immersioöljy öljyimmersio-objektiiveja varten)
- absoluuttinen alkoholi (etanoli tai metanoli optisten osien puhdistamista varten)
- petrolibensiini (immersioöljyn pois pyyhkimistä varten)
- lääkealkoholi (mikroskoopin desinfiointia varten).

Näiden liuottimien lähelle ei saa tuoda tulenliekkiä. Liuotinta käytettäessä on luettava sen valmistajan ohjeet huolellisesti ja noudatettava seuraavia varotoimia.

- Varmista, että tuotteen luona tai sen lähiympäristössä ei ole liuottimia, kun liität tai irrotat vaihtovirtasovittimen tai virtajohdon.
- Varo läikyttämästä liuottimia.

5. Vaaralliset näytteet

Tätä mikroskooppia käytetään pääasiassa objektilasille kiinnitetyn näytteen, kuten solujen tai kudoksen, mikroskooppiseen tarkasteluun.

Näytettä käsiteltäessä on tarkistettava, onko näyte mahdollisesti vaarallinen. Vaarallisia näytteitä on käsiteltävä laboratorion normaalien menettelytapojen mukaisesti. Jos näyte on tartuntavaarallinen, tartunnan välttämiseksi on käytettävä kumikäsineitä ja varottava koskemasta näytettä. Jos tällainen näyte joutuu kosketuksiin mikroskoopin kanssa, kontaminoinut osa on puhdistettava laboratorion normaalien menettelytapojen mukaisesti.

VAKAVA VAROITUS

6. Fotobiologinen turvallisuus

Tämän tuotteen suunnittelussa ja valmistuksessa on noudatettu turvallisuusstandardia IEC 62471 Lamppujen ja lamppujärjestelmien fotobiologinen turvallisuus.

Näytepöydän lähivalaistus ja trinokulaariputken kameraportista tuleva valo on luokiteltu seuraavassa esitettyyn riskiryhmään. Seuraava etäisyys (vaaraetäisyys) näytepöydästä ja kameraportin aukosta on säilytettävä, jotta riskiryhmäluokitus vastaa fotobiologisesti haitattoman valon ryhmäluokitusta:

	Riskiryhmäluokitus	**Vaaraetäisyys**
Sinisen valon aiheuttama vaara verkkokalvoille	Riskiryhmä 1	0,5 m

Riskiryhmään 1 luokiteltu valaistus voi olla vaarallista.

- Huomioi kirkkauden säätäminen säätönupin avulla ja vältä pitkäaikaista katsomista kirkkaaseen valoon.
- Älä katso kenttälinssiä. Sen alla on kiinteä LED-valolähde.
- Älä katso kameraportista tulevaa voimakasta valoa ylhäältä päin pitkäaikaisesti.
- Jos tuotteeseen ei asenneta kameraa, kameraporttiin on asetettava tuotteen mukana toimitettu korkki.

VAROITUS

1. Mikroskoopin kokoaminen

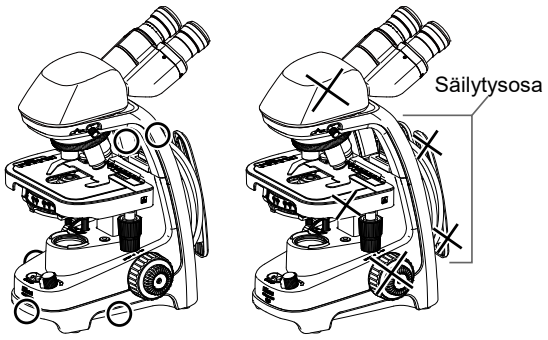
- Kun kokoat mikroskooppia, vaihtovirtasovitin ei saa olla liitettynä siihen.
- Varo sormien ja käsien joutumista puristuksiin osien väliin.

2. Suojele tuote kastumiselta ja vierasesineiden sisäänpääsyltä.

Tuote on suojeltava kastumiselta. Kastuminen voi aiheuttaa toimintahäiriön, ylikuumenemisen tai sähköiskun. Jos tuotteeseen läikkyy vahingossa vettä tai muuta nestettä, irrota heti virtajohto vaihtovirtasovittimesta. Pyyhi sitten neste pois kuivalla liinalla. Myös vierasesineiden pääsy tuotteen sisään voi aiheuttaa toimintahäiriön. Jos tuotteen sisään joutuu nestettä tai vierasesine, lopeta tuotteen käyttö ja ota yhteys lähimpään Nikonin edustajaan.

3. Tuotteen siirtäminen

- Mikroskoopissa on kädensijat ja kahvat kantamista varten.
  Jalustassa on kolme kädensijaa, ja mikroskoopin varressa on kaksi kahvaa.
  Mikroskooppia kannetaan pitämällä tukevasti kiinni näistä kädensijoista tai kahvoista.
  Sen sijaan mikroskoopin takaosassa oleva säilytysosa ei ole kahva. Siitä ei saa pitää kiinni, koska se on vaihtovirtasovittimen ja virtajohdon säilytyspaikka.
- Kun siirrät tuotetta, älä pidä kiinni esimerkiksi tarkennusnupeista, okulaariputkesta tai näytepöydästä. Nämä osat voivat irrota, ja seurauksena voi olla myös toimintahäiriöitä.



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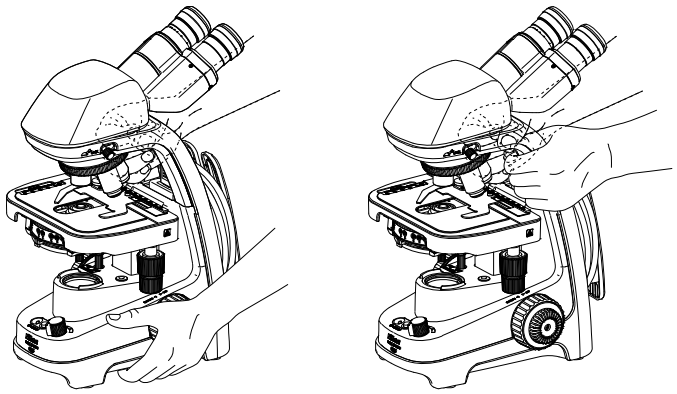


Oikea kantamistapa

4. Vältä mikroskoopin tahatonta työntämistä pöytäpinnalla.

Jos työnnät tuotetta tahattomasti, se voi siirtyä tasolla, johon se on asennettu. Tällainen siirtyminen on suositeltavaa estää kiinnittämällä vaijeri tuotteen takaosassa olevaan turva-aukkoon.

5. Mikroskoopin hävittäminen

Biologisten vaarojen välttämiseksi mikroskooppi on hävitettävä noudattamalla kontaminoituneita laitteita koskevia laitoksen normaaleja menettelytapoja.

Προφυλάξεις Ασφαλείας

Παρόλο που αυτό το προϊόν έχει σχεδιαστεί και κατασκευαστεί για να σας παρέχει απόλυτη ασφάλεια κατά τη χρήση, τυχόν λανθασμένη χρήση ή αμέλεια των οδηγιών ενδέχεται να προκαλέσουν προσωπικό τραυματισμό ή ζημία. Για να εξασφαλιστεί η σωστή χρήση, διαβάστε προσεκτικά αυτό το εγχειρίδιο οδηγιών πριν τη χρήση του προϊόντος. Μην πετάξετε το παρόν εγχειρίδιο αλλά φυλάξτε το κοντά στο προϊόν για να το συμβουλεύεστε εύκολα.

Ερμηνεία των συμβόλων που χρησιμοποιούνται στο προϊόν

Τα σύμβολα που εμφανίζονται επάνω στο προϊόν δείχνουν την ανάγκη για προφύλαξη ανά πάσα στιγμή κατά τη χρήση. Πάντα να συμβουλεύεστε τις εγχειρίδιο οδηγιών και να διαβάζετε τις σχετικές οδηγίες προτού να χειριστείτε οποιοδήποτε από τα τμήματα στα οποία έχει τοποθετηθεί το σύμβολο.

Σύμβολο	Περιεχόμενα
	**Βιολογικός κίνδυνος** Αυτή η ετικέτα σύμβολο που έχει αναρτηθεί στη βάση (δεξιά πλευρά πλάκας) σας υπενθυμίζει τα εξής: • ΠΡΟΕΙΔΟΠΟΙΗΣΗ: Επαφή μεταξύ του δείγματος και του μικροσκοπίου ενδέχεται να συνιστά βιολογικό κίνδυνο. • Για την αποφυγή μόλυνσης από υλικό βιολογικά επισφαλές, μην εγγίζετε το μολυσμένο τμήμα με γυμνά χέρια. • Απολυμάνετε το μολυσμένο τμήμα σύμφωνα με τη συνήθη διαδικασία για το εργαστήριο σας.

Σύμβολα ΠΡΟΕΙΔΟΠΟΙΗΣΗΣ και ΠΡΟΦΥΛΑΞΗΣ

Στο παρόν εγχειρίδιο, οι οδηγίες ασφαλείας παρουσιάζονται με τα σύμβολα που φαίνονται παρακάτω. Φροντίστε να τηρήσετε τις οδηγίες που παρουσιάζονται με αυτά τα σύμβολα για να εξασφαλίσετε την ορθή και ασφαλή λειτουργία.

Σύμβολο	Περιεχόμενα
 **ΠΡΟΕΙΔΟΠΟΙΗΣΗ**	Η αμέλεια των οδηγιών που σημειώνονται με αυτό το σύμβολο ενδέχεται να οδηγήσει σε θάνατο ή σοβαρό τραυματισμό.
 **ΠΡΟΦΥΛΑΞΗ**	Η αμέλεια των οδηγιών που σημειώνονται με αυτό το σύμβολο ενδέχεται να οδηγήσει σε τραυματισμό ή ζημία.

ΠΡΟΕΙΔΟΠΟΙΗΣΗ

1. Μην αποσυναρμολογείτε.

Η αποσυναρμολόγηση ενδέχεται να προκαλέσει δυσλειτουργία και / ή ηλεκτροπληξία, και θα οδηγήσει σε απώλεια όλων των αξιώσεων από την εγγύηση. Μην αποσυναρμολογείτε κανένα άλλο τμήμα εκτός από αυτά που περιγράφονται στο παρόν εγχειρίδιο. Σε περίπτωση οποιουδήποτε προβλήματος με το μικροσκόπιο, ειδοποιήστε τον πλησιέστερο αντιπρόσωπο της Nikon.

2. Διαβάστε προσεκτικά τις οδηγίες.

Για να εξασφαλίσετε την ασφάλεια, διαβάστε προσεκτικά αυτό το εγχειρίδιο χρήσης και τα εγχειρίδια χρήσης για άλλον εξοπλισμό που πρόκειται να χρησιμοποιηθεί μαζί με αυτό το προϊόν. Συγκεκριμένα, βεβαιωθείτε ότι ακολουθείτε τις προειδοποιήσεις και τις προφυλάξεις στην αρχή των εγχειριδίων χρήσης.

3. Εισαγωγή ηλεκτρικής ενέργειας, διακόπτης ισχύος, καλώδιο ισχύος

Ο διακόπτης ισχύος για την παροχή ρεύματος σε αυτό το προϊόν μπορεί να χρησιμοποιηθεί με 100 έως 240 V AC στα 50 έως 60 Hz. Χρησιμοποιείτε μόνο το διακόπτη ισχύος και το καλώδιο ισχύος που καθορίζονται στο κεφάλαιο 7, “Προδιαγραφές”. Η χρήση άλλου διακόπτη ισχύος ή καλωδίου ισχύος ενδέχεται να οδηγήσει σε δυσλειτουργία ή πυρκαγιά.

- Αποφεύγετε τη χρήση του προϊόντος σε περιβάλλον όπου η τροφοδότηση ηλεκτρικής τάσης ενδέχεται να διακυμαίνεται σημαντικά.
- Αυτό το προϊόν είναι ταξινομημένο ως Τάξη I για την προστασία από ηλεκτροπληξία. Βεβαιωθείτε ότι το συνδέετε σε προστατευτικό τερματικό γείωσης.
- Αν ο διακόπτης ισχύος είναι καλυμμένος ή αν υπάρχουν αντικείμενα τοποθετημένα στο διακόπτη ισχύος, ενδέχεται να εμποδιστεί η απώλεια θερμότητας και να προκληθεί ανώμαλη υπερθέρμανσή του.

4. Χειρισμός εύφλεκτων διαλυτικών ουσιών

Οι ακόλουθες εύφλεκτες διαλυτικές ουσίες χρησιμοποιούνται με το προϊόν:

- Λάδι απορρόφησης (Λάδι Απορρόφησης Nikon για λάδι απορρόφησης αντικειμενικών φακών)
- Πλήρες οινόπνευμα (αιθιλική αλκοόλη ή αλκοόλη μεθυλίου για τον καθαρισμό οπτικών τμημάτων)
- Βενζίνη πετρελαίου (για το σκούπισμα του λαδιού απορρόφησης)
- Ιατρικό οινόπνευμα (για απολύμανση του μικροσκοπίου)

Μην διατηρείτε ποτέ φλόγα κοντά σε αυτές τις διαλυτικές ουσίες. Όταν χρησιμοποιείτε μία διαλυτική ουσία, διαβάστε προσεκτικά τις οδηγίες που παρέχονται από τον κατασκευαστή, και μεταχειρίστε τις σωστά και με ασφάλεια.

- Κρατήστε τις διαλυτικές ουσίες μακριά από το προϊόν και το περιβάλλον του όταν ενεργοποιείτε/απενεργοποιείτε τον διακόπτη ισχύος ή συνδέετε/αποσυνδέετε το καλώδιο ισχύος.
- Προσέξτε να μην χυθούν οι διαλυτικές ουσίες.

5. Επικίνδυνα δείγματα

Το παρόν μικροσκόπιο είναι κυρίως για χρήση σε μικροσκοπική παρατήρηση δείγματος, όπως κυττάρων και ιστού στερεωμένων σε μια διαφάνεια.

Κατά το χειρισμό κάποιου δείγματος, ελέγξτε για να καθορίσετε αν το δείγμα είναι επικίνδυνο. Χειριστείτε τα επικίνδυνα δείγματα σύμφωνα με τη συνήθη διαδικασία για το εργαστήριο σας. Αν το δείγμα είναι μολυσματικής φύσης, φορέστε ελαστικά γάντια για να αποφύγετε τη μόλυνση, και προσέξτε να μην αγγίξετε το δείγμα. Σε περίπτωση επαφής του δείγματος με το μικροσκόπιο, απολυμάνετε το μολυσμένο τμήμα σύμφωνα με τη συνήθη διαδικασία για το εργαστήριο σας.

ΠΡΟΕΙΔΟΠΟΙΗΣΗ

6. Φωτοβιολογική ασφάλεια

Αυτό το προϊόν έχει σχεδιαστεί και κατασκευαστεί σύμφωνα με το πρότυπο ασφαλείας IEC 62471 “Φωτοβιολογική ασφάλεια λαμπτήρων και συστημάτων λαμπτήρων”.

Ο φωτισμός κοντά στην πλάκα και το φως από τη θύρα κάμερας του τριοφθάλμιου σωλήνα ταξινομείται στην ακόλουθη ομάδα κινδύνου. Η απόσταση (απόσταση κινδύνου) από την περιοχή κοντά στην πλάκα ή από το άνοιγμα της θύρας της κάμερας, όπου η ταξινόμηση της ομάδας κινδύνου είναι ισοδύναμη με την απαλλασσόμενη ομάδα που δεν προκαλεί φωτοβιολογική βλάβη, είναι η εξής.

	Ταξινόμηση ομάδων κινδύνου	**Απόσταση κινδύνου**
Κίνδυνος για τον αμφιβληστροειδή από το μπλε φως	Ομάδα κινδύνου 1	0,5 m

Ο φωτισμός στην ομάδα κινδύνου 1 μπορεί να είναι επικίνδυνος.

- Δώστε προσοχή στη ρύθμιση της φωτεινότητας με το κουμπί ελέγχου φωτεινότητας και αποφύγετε να κοιτάζετε απευθείας σε έντονο φως για μεγάλο χρονικό διάστημα.
- Μην κοιτάζετε μέσα στο φακό πεδίου. Η πηγή φωτός LED είναι ενσωματωμένη κάτω από το φακό πεδίου.
- Μην κοιτάζετε απευθείας επάνω από έντονο φως από τη θύρα της κάμερας για μεγάλο χρονικό διάστημα.
- Αν δεν τοποθετήσετε την κάμερα, τοποθετήστε το παρεχόμενο κάλυμμα στη θύρα της κάμερας.

ΠΡΟΣΟΧΗ

1. Συναρμολόγηση του μικροσκοπίου

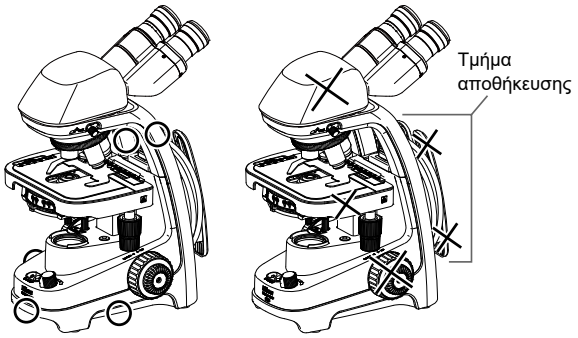
- Συναρμολογήστε το μικροσκόπιο ενώ ο διακόπτης ισχύος δεν είναι συνδεδεμένος σε αυτό.
- Φροντίστε να αποφύγετε το πιάσιμο των δακτύλων και των χεριών σας.

2. Μην βρέχετε το προϊόν και μην επιτρέπετε την εισχώρηση ξένων ουσιών.

Μην αφήνετε το προϊόν να βραχεί, καθώς μπορεί να προκληθεί δυσλειτουργία, υπερθέρμανση ή ηλεκτροπληξία. Εάν χυθούν κατά λάθος νερό ή άλλα υγρά πάνω στο προϊόν, αποσυνδέστε αμέσως το καλώδιο ισχύος από το διακόπτη ισχύος. Έπειτα, σκουπίστε το υγρό με ένα κομμάτι στεγνό ύφασμα. Η εισχώρηση ξένων στοιχείων στο προϊόν μπορεί επίσης να οδηγήσει σε δυσλειτουργία. Εάν υγρά ή ξένα στοιχεία εισαχθούν στο προϊόν, μην χρησιμοποιήσετε το προϊόν, και επικοινωνήστε με τη Nikon.

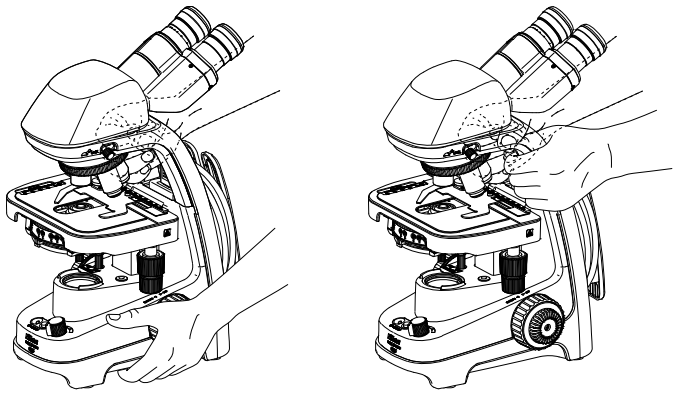
3. Μετακίνηση του προϊόντος

- Το μικροσκόπιο διαθέτει χειρολαβές και λαβές.
  Υπάρχουν τρεις χειρολαβές στη βάση και δύο λαβές στο βραχίονα του μικροσκοπίου. Κατά τη μεταφορά του μικροσκοπίου, κρατήστε το μικροσκόπιο σταθερά από αυτές τις χειρολαβές και λαβές.
  Το τμήμα αποθήκευσης στο πίσω μέρος του μικροσκοπίου δεν είναι λαβή. Μην κρατάτε αυτό το εξάρτημα, καθώς αποθηκεύει το διακόπτη ισχύος και το καλώδιο ισχύος.



Πού μπορείτε να κρατάτε: ○
Πού δεν πρέπει να κρατάτε: ×

- Κατά τη μετακίνηση του προϊόντος, μην κρατάτε από τις προεξοχές εστίασης, τον σωλήνα προσοφθάλμιου φακού, και τη βάση, κ.λπ. Τα μέρη μπορεί να αποχωριστούν και ενδέχεται επίσης να προκληθεί δυσλειτουργία.



Σωστός τρόπος συγκράτησης

4. Μην σπρώχνετε ακούσια το μικροσκόπιο επάνω στο τραπέζι.

Εάν σπρώξετε κατά λάθος αυτό το προϊόν, μπορεί να μετακινηθεί επάνω στην επιφάνεια εγκατάστασης. Συνιστούμε να συνδέσετε ένα καλώδιο στην υποδοχή ασφαλείας στο πίσω μέρος του προϊόντος για να το στερεώσετε.

5. Διάθεση του μικροσκοπίου

Για να αποφύγετε τον κίνδυνο βιολογικών ατυχημάτων, διαθέστε το μικροσκόπιο ως μολυσμένο εξοπλισμό, σύμφωνα με τις καθιερωμένες διαδικασίες για τη δική σας διευκόλυνση.

Notes on Handling the Product

1. Handle with care.

The product is a precision optical instrument. Handle the product with care and avoid physical shocks and vibrations.
In particular, the precision of objectives may be lost by even weak physical shocks.

2. Electromagnetic environment

Before using this product, Nikon recommends evaluating the electromagnetic environment of the installation site.
Do not use this product close to strong electromagnetic radiation sources (example: unshielded intentional RF sources.) They may interfere with the proper operation of this product.
This product emits low-level electromagnetic radiation. Do not install this product near precision electronic devices. Otherwise, the performance of such devices might be degraded. If TV or radio reception is affected, move the TV or radio farther away from this product.

3. Installation location and storage location

The product is a precision optical instrument. Use or storage of the product under inappropriate conditions may result in malfunctions or loss of precision. Details on the installation and storage environment are given in Chapter 7, “Specifications”. Additionally, the following conditions must be considered for the installation location and the storage location.

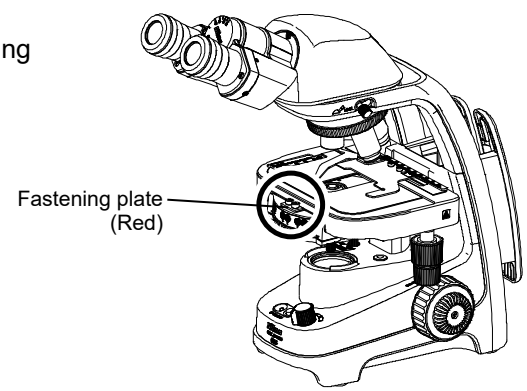
- Avoid placing the product in a hot or humid location. Use or storage of the product in a hot or humid location may result in molding of or condensation on the lenses, loss of precision, and malfunctions.
- Install the product in a place with little dust and dirt.
  When storing the product, place a cover over the product to protect it from dust.
- Install the product in a place with little vibration.
- Install and store the product on a level and sturdy table or stage that can bear the weight of the product.
  Install the product in a location with minimal exposure to hazards in the event of earthquakes and other potential disasters. If necessary, secure the product to the working desk or other heavy and stable items with a strong wire or other means, so as to prevent it from falling.
  This microscope has a security slot on the back. We recommend that you attach a wire to the security slot to fix the microscope.
- Install the product so that the power cord can be unplugged immediately from the AC adapter in case of an emergency.
- Avoid placing the product in direct sunlight or immediately under room lights.
  The image quality is degraded in a bright environment due to the extraneous light entering the objective. A room light immediately above the microscope may also enter the objective as extraneous light. In this case, it is recommended that you turn off the room light above the microscope.
- Install the product at least 10 cm away from the surrounding walls.
- Do not place items on the product.

4. Handling optical parts

Handle optical components such as lenses and filters with care, so as not to damage them. Scratches and dirt (i.e., fingerprints) on the optical components will degrade the microscope image. If components require cleaning, see Chapter 6, “Care and Maintenance”.

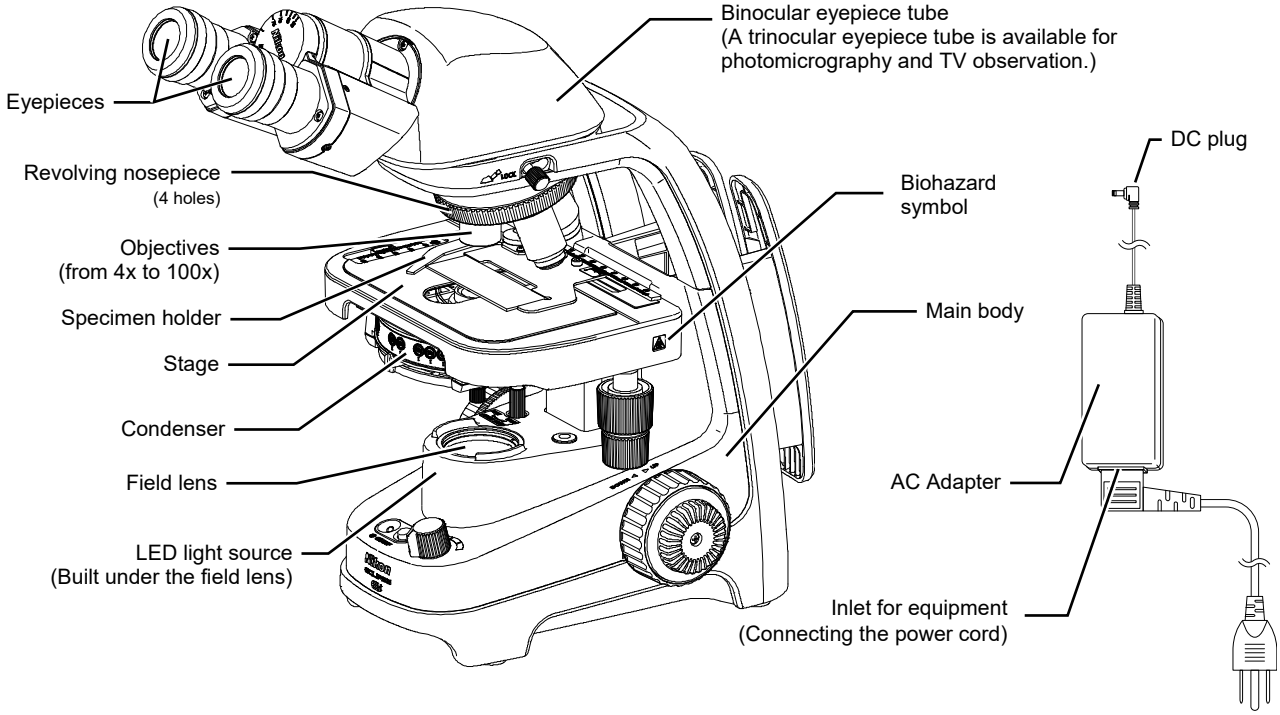
5. Fastening plate

The microscope is held tightly by the red fastening plate during shipment. Be sure to remove the plate before use. The microscope cannot be used without removing the fastening plate. For details, see Section 4.1, “Removing the Fastening Plate”.

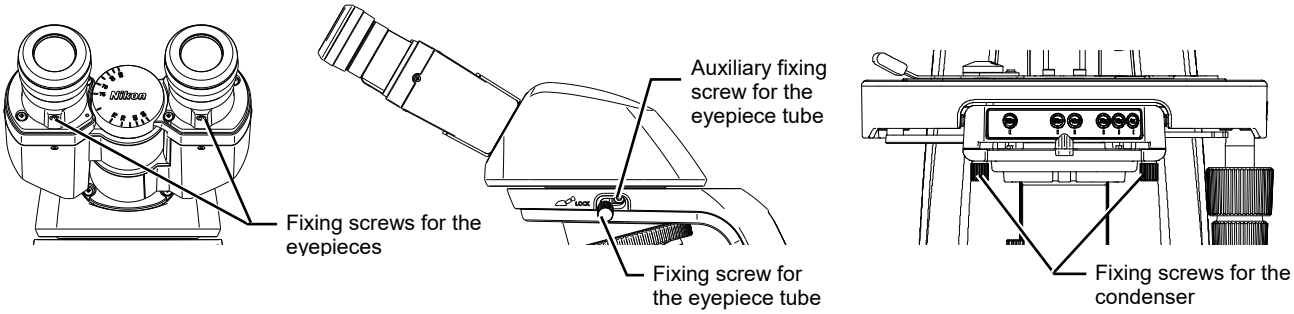


1 Names of Parts

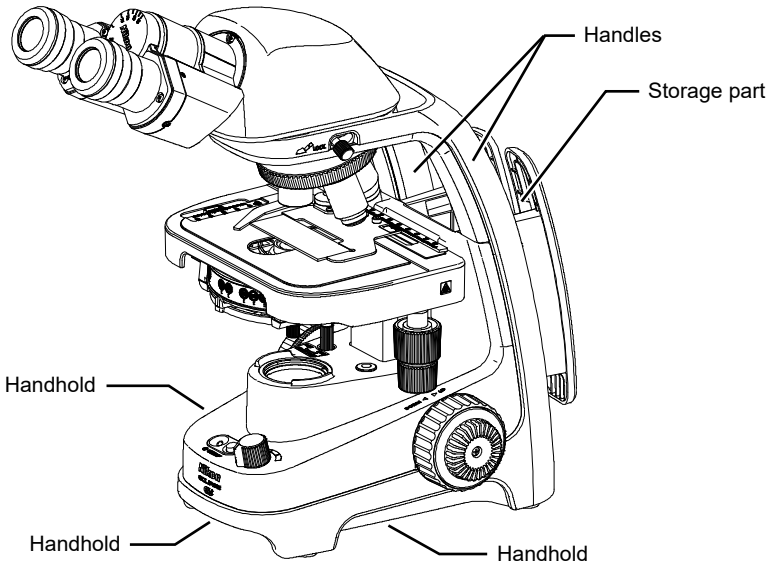
Nomenclature of Each Part



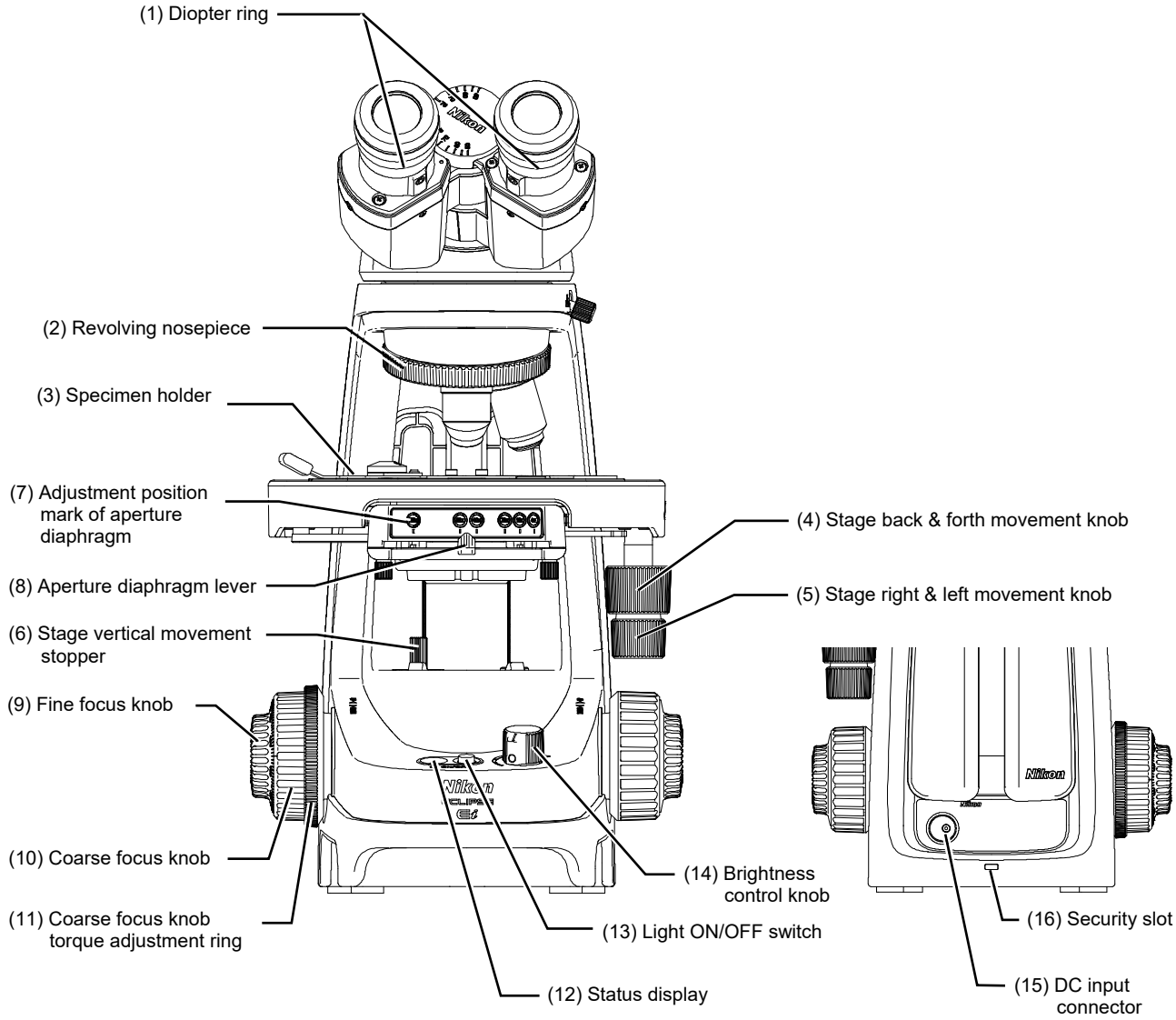
(Fixing part)



(Holding part, storage part)



Nomenclature of Control Section



(1) Diopter ring: Compensates for the difference between the right and left eyesight of the observer.	(12) Status display: Displays the connection state of the power source and the ON/OFF state of the light. Off: The AC adapter (power source) is not connected. Orange: The AC adapter (power source) is connected, and the light ON/OFF switch is off. Green: The AC adapter (power source) is connected, and the light ON/OFF switch is on.
(2) Revolving nosepiece: Switches the objectives.	
(3) Specimen holder: Holds a specimen.	
(4) Stage back & forth movement knob: Moves the specimen holder back and forth.	
(5) Stage right & left movement knob: Moves the specimen holder right and left.	
(6) Stage vertical movement stopper: Sets the upper limit of the stage movement. Used for the fail-safe device for specimen damage protection.	
(7) Adjustment position mark of aperture diaphragm: Display corresponding to the magnification of the objective	(13) Light ON/OFF switch: Turns the light on or off.
(8) Aperture diaphragm lever: Adjusts the aperture diaphragm from ϕ2 mm to ϕ28 mm.	(14) Brightness control knob: Adjusts illumination. Turned clockwise: Increases brightness. Turned counterclockwise: Decreases brightness.
(9) Fine focus knob: Used for fine focusing.	
(10) Coarse focus knob: Used for coarse focusing.	(15) DC input connector: Connected with the AC adapter.
(11) Coarse focus knob torque adjustment ring: Adjusts the tension of the coarse focus knob.	(16) Security slot: Connected with the security wire.

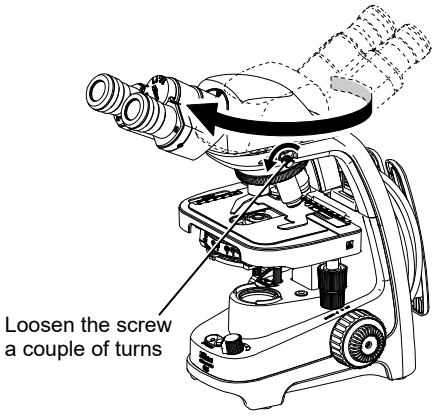
2 Observation Steps

1 Install the microscope.

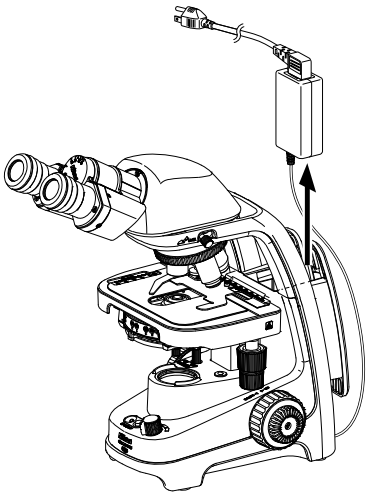
Carry the microscope from the storage location and place it on a table.
Fix the direction of the eyepiece tube to the observation point (the binoculars are toward you).

Loosen the fixing screw for the eyepiece tube a couple of turns, and then turn the eyepiece tube. → Chapter 4, "Assembly" - Step 2, "Change the direction of the eyepiece tube, remove and attach the eyepiece tube"

Pull out the AC adapter and power cord from the storage part on the rear of the product.



Change the direction of the eyepiece tube.

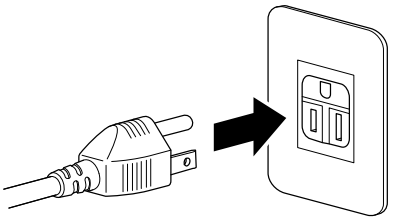


Remove the AC adapter.

2 Turn on the microscope.

Confirm that the DC plug of the AC adapter is connected to the DC input connector on the rear of the product, and plug the power cord of the AC adapter into the wall outlet.

We recommend that you turn the brightness control knob counterclockwise until it stops before turning on the power. You might feel that the illumination is too bright depending on the position of the aperture diaphragm lever.



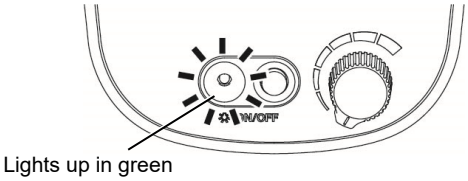
Turn on the microscope.

3 Turn on the light.

Check the status.

- Green LED: The light is on.
- Orange LED: The light is off.

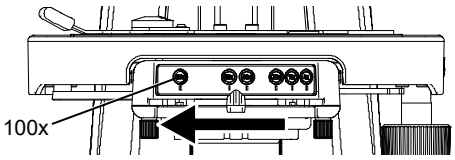
If the LED is orange, press the light ON/OFF switch. The LED turns green and the light is turned on.



Turn on the light.

4 Fully open the aperture diaphragm.

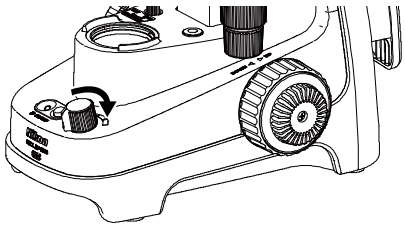
Set the aperture diaphragm lever to the position of 100x of the adjustment position mark of aperture diaphragm.



Fully open the aperture diaphragm.

5 Adjust the brightness.

Adjust the brightness by rotating the brightness control knob.

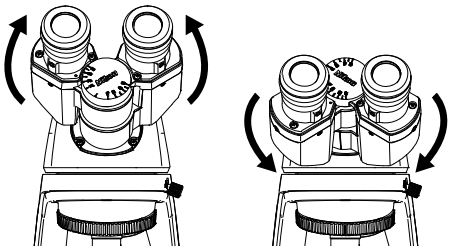


Adjust the brightness.

6 Adjust the interpupillary distance.

Adjust the distance between the binoculars. (Set the distance so that the right and left viewfields are merged into one when looking through the eyepieces.)

When the binocular part is turned upward, the eye level is raised, and when it is turned downward, the eye level is lowered.

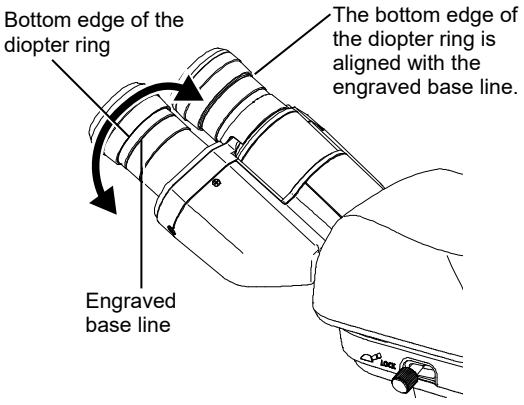


Adjust the interpupillary distance.

7 Align the diopter ring with the standard position.

Turn the diopter ring on the eyepieces to align its bottom edge with the engraved base line.

Perform this procedure to the right and left eyepieces.

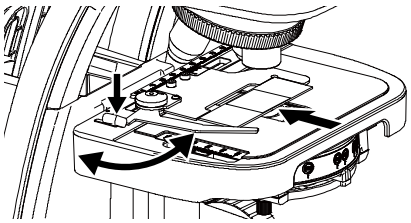


Set the diopter ring to the standard position.

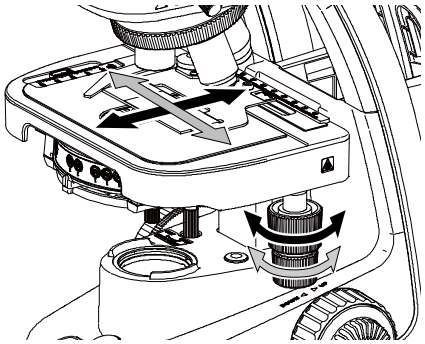
8 Set the specimen.

Open the claw of the specimen holder with your finger at the root projection. Place the specimen slide on the stage with the coverglass facing upward, and put the claw back to fix it.

Rotate the stage knobs to bring the observation region of the specimen into the optical path. (Let illumination light go through the specimen.) → Chapter 3, “Detailed Explanation” - Section 3.2, “Moving the Specimen”



Set the specimen.

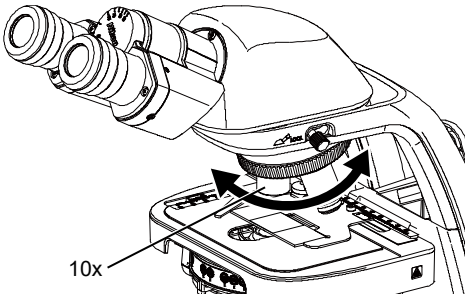


Bring the observation region into the optical path.

9 Focus on the specimen with the 10x objective.

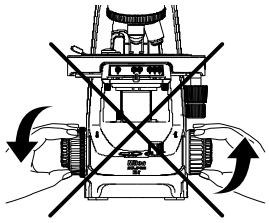
Rotate the revolving nosepiece to swing the 10x objective into the optical path. The objective will click into place when rotated into position.

Rotate the coarse and then fine focus knobs to focus on the specimen. → Section 3.3, “Focusing”, and Section 3.7, “Torque Adjustment of the Coarse Focus Knob”



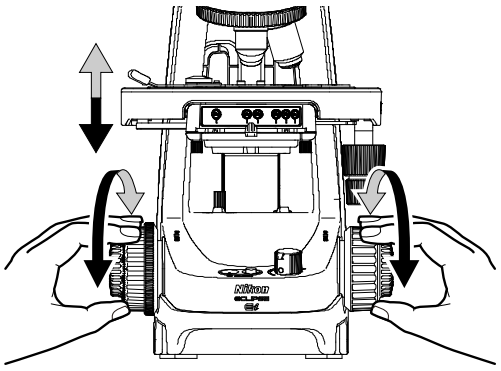
Set the magnification of the objective to 10x.

Do not turn the right and left focus knobs simultaneously in opposite directions. Additionally, do not turn the coarse focus knob further after the stage has reached its upper or lower limit. This operation will damage the focusing mechanism.



✓ **When the focal point cannot be found**

To find the focal point, rotate the stage vertical movement stopper counterclockwise to unlock the limit.

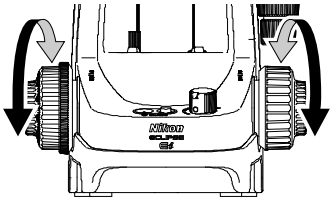


Focus on the specimen.

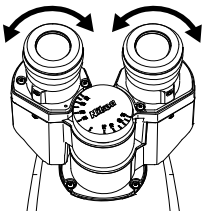
10 Adjust the diopter.

Swing the 40x objective in the optical path and rotate the focus knobs to focus on the specimen.

Then, change the objective to the 10x (or 4x) objective and focus on the specimen by rotating the diopter ring without using the focus knob. Perform this procedure while looking into the right eyepiece with your right eye and the left eyepiece with your left eye. → Section 3.4, “Adjustment of Diopter”



(1) Focusing with the 40x objective by rotating the focus knobs



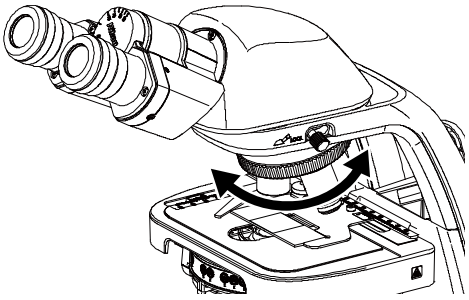
(2) Focusing with the 10x objective by rotating the diopter rings

Adjust the diopter.

11 Change the objective to the magnification used for observation.

Rotate the revolving nosepiece to bring the objective of the desired magnification into the optical path.

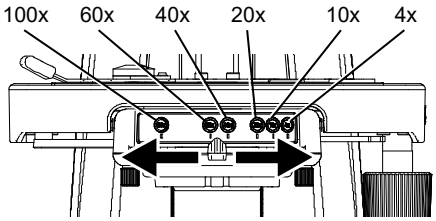
Do not directly switch from the 4x objective to the 60x or 100x objective. Be sure to focus on the specimen with the 10x objective before using the objective of a higher magnification.



Switch to the objective to be used for observation.

12 Adjust the aperture diaphragm.

Set the aperture diaphragm lever to the adjustment position mark of aperture diaphragm (the same figure as the magnification of the objective). → Section 3.5, “Adjustment of Aperture Diaphragm”



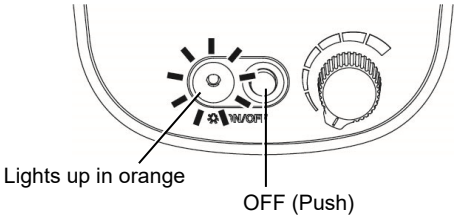
Adjust the aperture diaphragm.

13 Observe the specimen.

When you need to observe the specimen with a different magnification, repeat steps 11 and 12.

14 Turn off the microscope.

Set the light ON/OFF switch to OFF (the status display LED turns orange), and unplug the power cord.



Turn off the microscope.

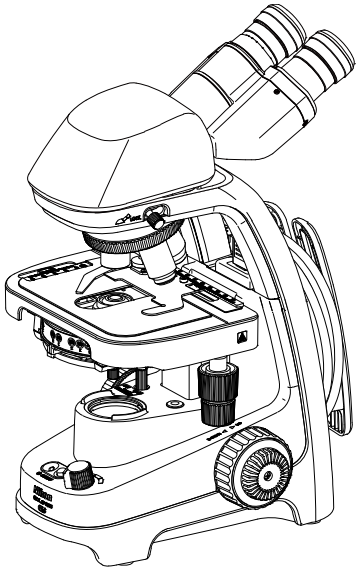
15 Store the microscope.

After observation, turn the eyepiece tube backward and fix it.

Loosen the fixing screw for the eyepiece tube a couple of turns, and then turn the eyepiece tube. → Chapter 4, "Assembly" - Step 2, "Change the direction of the eyepiece tube, remove and attach the eyepiece tube"

Store the AC adapter in the storage part on the rear of the microscope, wind the cords around, and then put it back in place.

✓ **AC adapter**
The AC adapter can be stored with it connected to the microscope.



Fix the eyepiece tube backward and store the AC adapter.

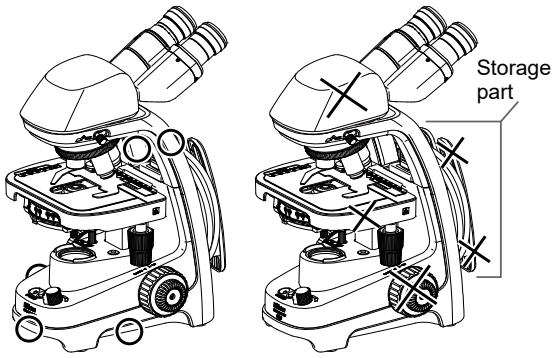
3 Detailed Explanation

3.1 Moving, Installing, and Storing the Microscope

■ Moving the microscope

When changing the installation location, or taking the microscope out of the storage location to install it, carry and install it according to the following appropriate method.

The microscope has carrying handholds and handles. There are three handholds on the base and two handles on the arm of the microscope. When carrying the microscope, hold the microscope firmly by these handholds and handles.



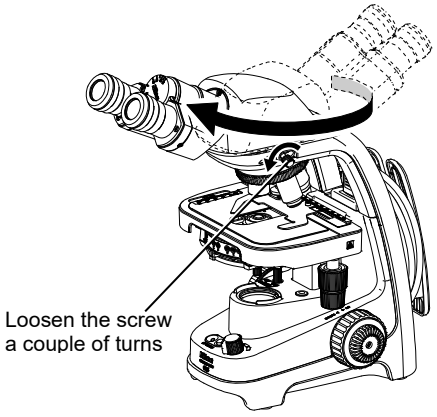
Where you can hold: O
Where you must not hold: ×

- **The storage part on the rear of the microscope is not a handle. Do not hold this part as it stores the AC adapter and power cord.**
- **When moving the product, do not hold by the focus knobs, eyepiece tube, and stage, etc. The parts may become detached and also result in malfunctions.**

■ Installing the microscope

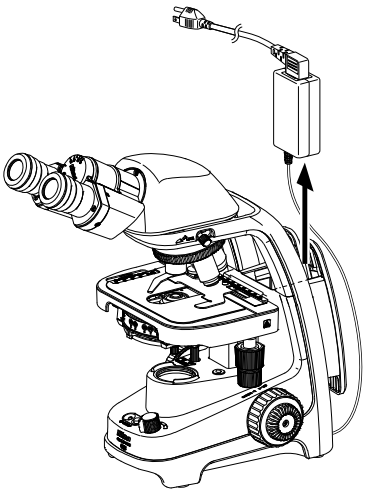
Install the microscope in a place appropriate for observation. → “Notes on Handling the Product” - 3, “Installation location and storage location”

When the microscope is carried from the storage location, the binoculars of the eyepiece tube are usually fixed backward. In this case, fix the direction of the eyepiece tube to the observation point (the binoculars are toward you). → Chapter 4, “Assembly” - Step 2, “Change the direction of the eyepiece tube, remove and attach the eyepiece tube”



Loosen the fixing screw for the eyepiece tube a couple of turns, and then turn the eyepiece tube. If the screw head protrudes, turning the eyepiece tube might damage the circular dovetail mount of it by the screw head.

Pull out the AC adapter and power cord from the storage part on the rear of the microscope.



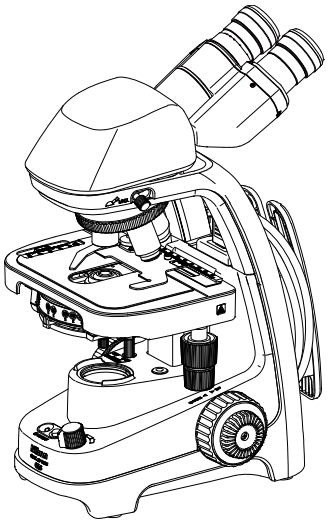
■ Storing the microscope

After using the microscope, arrange it according to the following storage conditions, and then store it in the designated storage location. → “Notes on Handling the Product” - 3, “Installation location and storage location”

Store the AC adapter in the storage part on the rear of the microscope, and wind the cords around. The AC adapter can be stored with it connected to the microscope.

Rotate the eyepiece tube 180 degrees from the observation point and fix it backward.

Then, the upper part of the microscope is made more compact. The binoculars do not hit somewhere, resulting in less storage space. → Chapter 4, “Assembly” - Step 2, “Change the direction of the eyepiece tube, remove and attach the eyepiece tube”



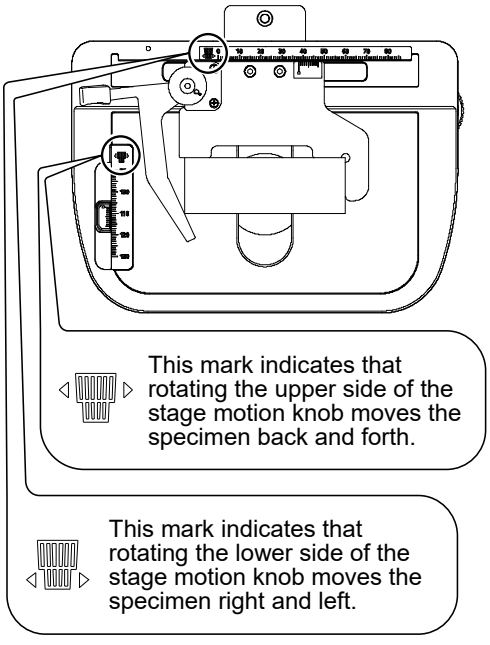
Loosen the fixing screw for the eyepiece tube a couple of turns, and then turn the eyepiece tube. If the screw head protrudes, turning the eyepiece tube might damage the circular dovetail mount of it by the screw head.

3.2 Moving the Specimen

You can set the specimen fixed to the specimen holder to the desired position by operating the stage motion knobs to move the specimen holder back and forth, and right and left. Set the specimen so that the region you want to observe is in the optical path.

The end of the travel scale shows the icon of the stage motion knob to be operated.

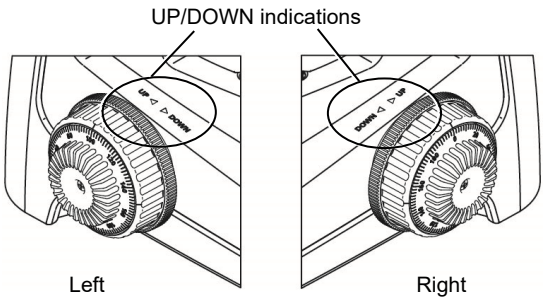
✔ **Travel scale**
The stage has the scales that indicate the travel of the specimen in the horizontal and vertical directions. You can use the main scale and vernier scale to read the travel in units of 0.1 mm.



3.3 Focusing

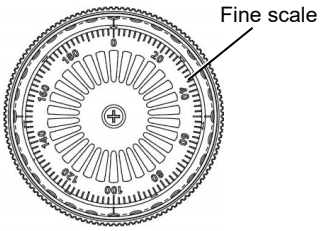
This procedure is to operate the fine and coarse focus knobs to raise and lower the stage so that the specimen to be observed can be seen most clearly.

The UP and DOWN indications on the microscope base indicate the direction in which the stage moves by rotation of the focus knobs. For both the fine and coarse focus knobs, turning in the UP direction raises the stage, and turning in the DOWN direction lowers the stage.



✔ **Fine scale**

One rotation of the fine focus knob moves the stage vertically by 0.2 mm. The fine scale lines are provided at intervals of 2 µm of stage travel.

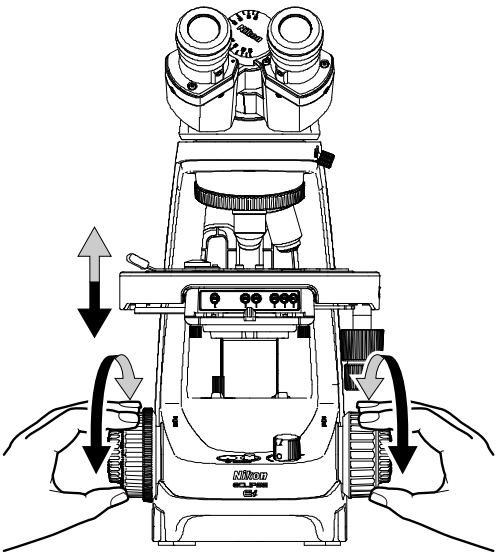


■ Standard procedure

(1) Swing the 10x (or 4x) objective into the optical path.

(2) Rotate the coarse focus knob to raise the stage to its upper limit.
Since the working distances of 4x and 10x objectives are long, these objectives do not touch the specimen even when the stage is raised to its upper limit provided that the slide and coverglasses of a standard thickness are used. (The standard thickness for slide is 1.2 mm and that for coverglass is 0.17 mm.)

(3) Looking into the eyepiece, slowly rotate the coarse focus knob to lower the stage. When the specimen image appears, take your hands off the coarse focus knob.



When rotating the coarse focus knob while looking into the eyepiece, be sure to rotate it in the direction that lowers the stage.

✔ **When the focal point cannot be found**

To find the focal point, rotate the movement stopper counterclockwise to unlock the limit.

(4) Rotate the fine focus knob and precisely focus on the image.

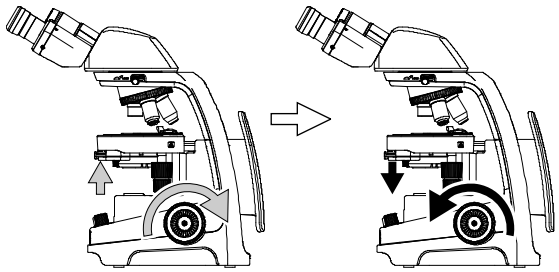
■ Using the objective of a higher magnification for observation

First, use the 10x objective to focus on the specimen, and then change it to the desired objective and rotate the fine focus knob to precisely focus on the specimen.

When operating the focus knob while using the objective of a higher magnification, care must be taken to prevent the slide glass from touching the objective. When you raise the stage using the coarse focus knob, look at the gap between the upper surface of the specimen and the front of the objective from the side.

■ Using working distances

The stage can be raised by using the working distance (→ See Section 3.10, “Microscope Terminology”.) of the objective.



While looking at the microscope from the side, rotate the coarse focus knob with care to bring the specimen close to the objective. Then, when the distance between the specimen and the front of the objective becomes slightly smaller than the working distance, take your hands off the coarse focus knob. The specimen is now almost in focus. Look into the eyepieces and rotate the fine focus knob in the direction that lowers the stage to precisely focus on the specimen.

■ Focusing by switching the objective from 40x to 10x

Swing the 40x objective into the optical path. While looking at the microscope from the side, rotate the coarse focus knob until the specimen almost touches the objective (about 0.5 mm apart from the front of the objective). Switch to the 10x objective, look into the eyepieces, and rotate the fine focus knob slightly to find the focal point. Be careful not to hit the objective with the specimen.

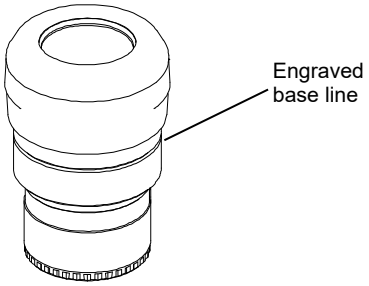
3.4 Adjustment of Diopter

This procedure is to adjust the diopter ring on the eyepieces according to the difference between your right and left eyesight.

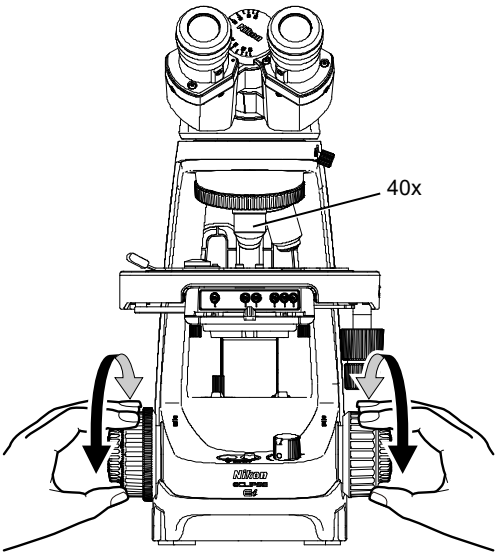
✔ **Effect of diopter correction**

This adjustment enables the user to take full advantage of high performance of objectives, and reduce focus deviation due to switching of the magnification.

(1) Turn the diopter ring on the right and left eyepieces to align its bottom edge with the engraved base line. This is the standard position for the diopter adjustment.

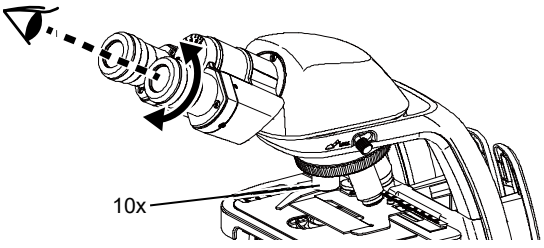


(2) Swing the 40x objective in the optical path. Rotate the coarse and then fine focus knobs to bring the specimen in focus. See the description in "■ Focusing by switching the objective from 40x to 10x" in Section 3.3, "Focusing".



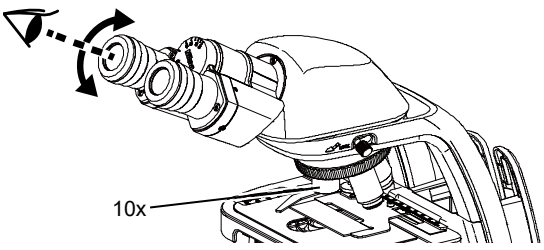
(3) Swing the 10x (or 4x) objective into the optical path.

(4) While looking into the right eyepiece with your right eye, focus on the specimen by rotating the right diopter ring without using the focus knob.



(5) While looking into the left eyepiece with your left eye, focus on the specimen by rotating the left diopter ring without using the focus knob.

(6) Repeat steps (2) to (5) to check the specimen is in focus.

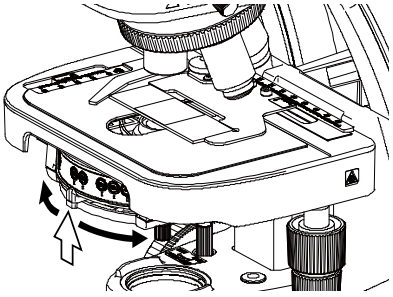


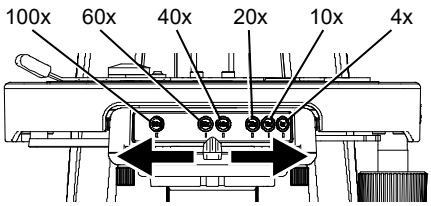
3.5 Adjustment of Aperture Diaphragm

The size of the condenser aperture diaphragm should be adjusted according to the objective in the optical path.

A guideline for the adjustment position is shown by the “adjustment position mark of aperture diaphragm” on the condenser. Turn the aperture diaphragm lever to “the same figure as the magnification of the objective” in the optical path.

Each time you change the objective magnifications, align the aperture diaphragm lever to the same figure as the magnifying power of the objective.





Adjustment position mark of aperture diaphragm

Adjustment position mark of aperture diaphragm

Objective	Color of the mark
4x	Red
10x	Yellow
20x	Light green
40x	Light blue
60x	Dark blue
100x	White/Black

✔ **Aperture diaphragm**

- The aperture size is increased or decreased by turning the condenser aperture diaphragm lever.
  If the aperture diaphragm is closed, the brightness and resolution are decreased but the contrast and range of focus are increased. If the aperture diaphragm is opened, the brightness and resolution are increased but the contrast and range of focus are decreased. Since the image resolution will be degraded when the aperture diaphragm is closed too much, do not close the aperture diaphragm too much except when observing a specimen with extremely low contrast, such as a near-transparent specimen.
- The aperture diaphragm controls the numerical aperture of the illumination. Do not use it to control brightness. Use the brightness control knob to control the brightness.

BE2 PLAN → Objective type
40x/0.65 → Magnification 40 times/Numerical aperture 0.65
∞/0.17 → Mechanical tube length ∞/Coverglass thickness 0.17 mm
WD 0.6 → Working distance (Distance between the front of the objective and the specimen) 0.6 mm
OFN20 → Objective field number 20

Specifications of objective

3.6 Oil-Immersion Observation

The “Oil” mark on the side of an objective indicates that it is an oil-immersion type objective. (The oil-immersion objective also has a black band around the barrel end.) An oil-immersion objective is used with the immersion oil applied between the front of the objective and the coverglass. For an oil-immersion objective with a numerical aperture of 1.0 or more, also apply immersion oil to the condenser to take full advantage of its performance. (An oil-immersion type condenser needs immersion oil to be applied between the front of the condenser and the specimen.)

The condenser has an oil receptacle around the front of its lens.

■ Example of oil-immersion

Apply immersion oil to the condenser and then objective.

Condenser:
Add a drop of oil on the condenser lens, and then place the specimen on the stage.

Objective:
Rotate the revolving nosepiece to move the objective out of position. Add a drop of oil to the specimen. Slowly rotate the revolving nosepiece to bring the objective back into position.

■ Eliminating air bubbles

Make sure that air bubbles are not trapped during oil application. Air bubbles degrade the image.

Do any of the following to eliminate air bubbles:

- Rotate the revolving nosepiece to move the objective back and forth once or twice.
- Add another drop of oil.
- Wipe off the oil and apply again.

■ Handling of the immersion oil

- Use a minimum quantity of oil. If too much oil is applied, surplus oil may flow out onto the stage and the condenser and degrade performance.
- Any oil residue left on the lenses of oil-immersion type objectives or adhesion of oils on the front lens of dry type objectives will degrade image quality. After completing oil-immersion observation, be sure to clean the objective, condenser, and any other parts that may be stained by oil.
- To wipe surplus oil on the front of the condenser lens, loosen the fixing screws for the condenser to remove the condenser.
- Use petroleum benzine to wipe off oil and finish with absolute alcohol (ethyl or methyl alcohol). If petroleum benzine is not available, use methyl alcohol instead. In that case, wipe off the oil several times as the detergency of methyl alcohol is weaker than petroleum benzine. (You can wipe off the oil generally 3 to 4 times.)
- When handling petroleum benzine and absolute alcohol, be sure to follow the instructions described in “4. Handling flammable solvents” in “⚠WARNING” at the beginning of this manual.
- Close the oil container cap tightly after use. Make sure that the cap is closed tight after refilling the container. Check the cap periodically to make sure it has not come loose, allowing oil to leak out.
- Do not press the container hard. Oil may splash out.
- If you find an oil drips around the container, wipe them off.
- Avoid contact of immersion oil with eyes or skin. In the event of contact with eyes or skin, take one of the following measures although Nikon immersion oil does not contain any toxic ingredients.

  Contact with skin: Rinse your skin thoroughly with soap and water.

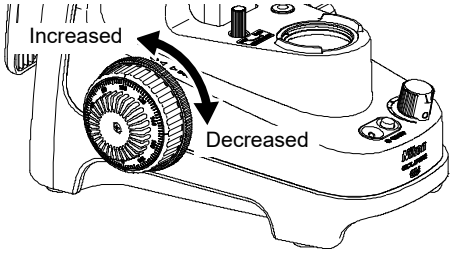
  Contact with eye: Rinse your eye thoroughly with water (more than 15 minutes) and see a doctor.
- Do not leave immersion oil in the sun (ultraviolet rays may damage it).

3.7 Torque Adjustment of the Coarse Focus Knob

The tension (torque) of the coarse focus knob rotation can be adjusted.

To increase the tension, turn the coarse focus knob torque adjustment ring counterclockwise.

To decrease the tension, turn the ring clockwise. Do not decrease the tension too much. If it is too loose, the stage will fall under its own weight.



3.8 Replacing a Specimen Using the Stage Vertical Movement Stopper

When focusing on the specimen with 40x or higher magnification objective, you will find the specimen is brought very near to the objective(*1).

In such a state, it will be very difficult to replace the specimen while taking care not to break it. In a case like this, use the stage vertical movement stopper for easy specimen replacement.

The stage vertical movement stopper has the indication (“FOCUS LIMIT” “HIGH/LOW”) that shows the direction of the rotation and vertical movement. Operate the stage vertical movement stopper according to the following steps.

(1) Turn the stage vertical movement stopper counterclockwise (in the HIGH direction) until it stops.

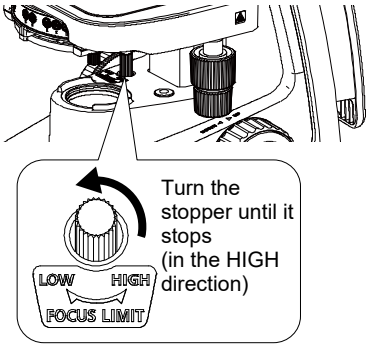
(2) Focus on the specimen, and then turn the stage vertical movement stopper clockwise (in the LOW direction) until it stops. Rotating the stage vertical movement stopper too much causes the set focal point to shift.

(3) Performing the above steps sets the stage so that it does not move above that position.

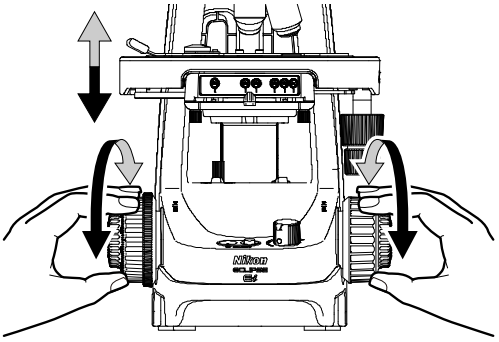
(4) Lower the stage by the focus knob, and replace the specimen. After that, when turning the focus knob, you can find that the stage stops near the position set in (2).

(5) If the specimen is out of focus, turn the stage vertical movement stopper counterclockwise (in the HIGH direction) to release the set position, and then slightly operate the fine focus knob to adjust the focus.

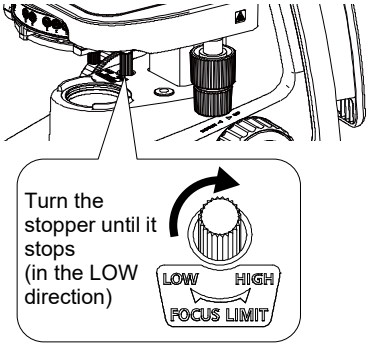
*1: The distance between the front of the objective and the specimen when the specimen is in focus is called the “working distance” of the objective. See Section 3.10, “Microscope Terminology”.



Turn the stopper until it stops (in the HIGH direction)



Focusing



Turn the stopper until it stops (in the LOW direction)

When raising the stage by the focus knob, the stage stops near the focused position. The stage does not move above that position.

3.9 Optical Characteristics

■ **Combinations of 10x (Field No. 20) eyepiece with BE2-Plan objectives**

Objective Magnification [x]	Total Magnification [x]	Numerical Aperture	Real Viewfield [mm]	Depth of Focus [μm]	Resolving Power [μm]	Working Distance [mm]
4	40	0.1	5.0	115.0	2.8	25
10	100	0.25	2.0	18.4	1.1	6.7
20	200	0.4	1.0	6.1	0.7	3.7
40	400	0.65	0.5	2.0	0.4	0.6
60	600	0.8	0.3	1.2	0.3	0.25
100	1000	1.25	0.2	0.7	0.2	0.14

3.10 Microscope Terminology

(1) Total Magnification
The total magnification of a microscope is the individual magnifying power of the objective multiplied by that of the eyepiece.

(2) Numerical Aperture (N.A.)
The numerical aperture is an important factor in determining the efficiency of the condenser and objective. It is represented by the formula:

N.A. = n sin α
where n is the refractive index of the medium (air, immersion oil, etc.) between the objective and the specimen or condenser, and α is the maximum angle at which light enters or leaves the lens from or to a focused object point on the optical axis.

The larger the numerical aperture the brighter the image and the higher the resolution.

(3) Resolving Power
The ability of an optical system to discriminate between two discrete objects separated by a minute distance. The more minute the distance, the higher the resolving power of the optical system. In relation to the numerical aperture, the resolving power is represented by the following formula:

Resolving power = $\frac{\lambda}{2 \times \mathrm{N.A.}}$ where λ is the used wavelength of light.

(The resolving power in the above table is indicated for λ= 0.55 μm.)

(4) Working Distance (W.D.)
The clearance between the front of the objective and the upper surface of the coverglass, when a specimen image is sharply focused. Generally, the higher the magnifying power of the objective, the shorter the working distance.

(5) Field Number of the Eyepiece
The diameter in mm of the viewfield observable through the eyepiece. When an eyepiece has an indication of “10x / 20”, it means that the magnification is 10x and the field number is 20 for that eyepiece.

(6) Real Viewfield
The diameter of the region of the specimen that is actually observed with the microscope.
Real viewfield = field number of eyepiece / magnification of objective

(7) Depth of Focus
The depth (thickness) of the specimen image in focus, extending above and below the focused image plane. The larger the N.A. of the objective, the shallower the depth of focus.

$$DOF = n \times \left(\frac{\lambda}{2 \times N.A.^2} + \frac{250000 \times \omega}{M \times N.A.} \right)$$

DOF: Depth of focus (object side)
n: Refractive index (Varies depending on the medium between the specimen and the objective lens)
For air: 1
For oil immersion (Nikon Immersion Oil): 1.518
ω: Eye resolution (5’=0.0014)
M: Total magnification
$N.A.$: Numerical aperture of the objectives
λ: Wavelength (observation magnification: 0.55 μm.)

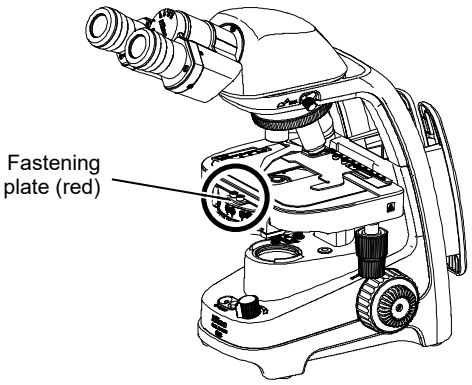
4 Assembly

Before assembling or connecting devices, thoroughly read the “Safety Precautions” and "Notes on Handling the Product" at the beginning of this manual, and be sure to follow all the instructions written therein.

Tools Required for Assembly: Hexagonal wrench (the distance between opposite sides is 3 mm)
(one hexagonal wrench is provided with the microscope)

1 Remove the fastening plate

Remove the red fastening plate attached to the top of the stage.
The fastening plate retains movement in the front and back directions of the stage and is attached with two bolts. Remove this fastening plate with the hexagonal wrench provided.



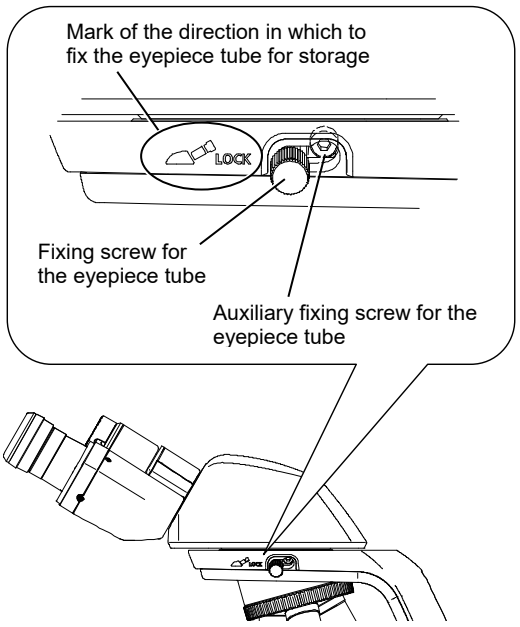
✔ **Keeping the fastening plate**
Be sure to keep the fastening plate with two bolts just in case re-fastening is needed.

2 Change the direction of the eyepiece tube, remove and attach the eyepiece tube

When you have purchased the microscope as a set, the eyepiece tube is already installed to the main body.
At the time of observation, turn the binoculars toward you and fix the eyepiece tube. At the time of storage, turn the binoculars backward and fix the eyepiece tube.
When changing the direction of the eyepiece tube, or replacing the eyepiece tube to another one, follow the following procedure.
When installing the eyepiece tube to the main body for the first time, also follow the procedure described in “■ Installing the eyepiece tube”.

■ Changing the direction of the eyepiece tube

Manually rotate the fixing screw for the eyepiece tube a couple of turns to loosen it while supporting the eyepiece tube by hand.
Turn the eyepiece tube in the desired direction and securely tighten the fixing screw for the eyepiece tube while the eyepiece tube fits into the circular dovetail mount properly.



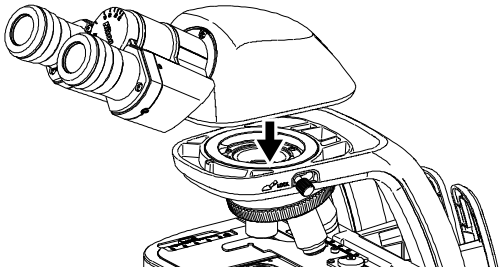
✔ **Mark of the direction in which to fix the eyepiece tube for storage**
The microscope has an icon on the arm that indicates the direction in which to fix the eyepiece tube when storing the microscope. This mark indicates that the binoculars of the eyepiece tube is turned backward and fixed.

■ Removing the eyepiece tube

Manually loosen the fixing screw for the eyepiece tube while supporting the eyepiece tube by hand.
Loosen the auxiliary fixing screw for the eyepiece tube by using the supplied hexagonal wrench and remove it.
Remove the eyepiece tube with care not to drop it.

■ Installing the eyepiece tube

Insert the eyepiece tube into the circular dovetail mount while tilting it so that the eyepiece tube fits into it properly.
Securely tighten the fixing screw for the eyepiece tube while supporting the eyepiece tube by hand.
Fit the auxiliary fixing screw for the eyepiece tube and tighten it by using the supplied hexagonal wrench.



✔ **Function of the auxiliary fixing screw for the eyepiece tube**

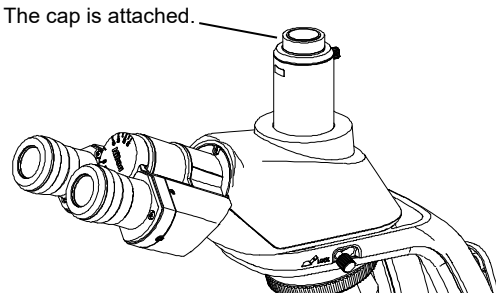
The auxiliary fixing screw for the eyepiece tube is for preventing the eyepiece tube from falling when the fixing screw for the eyepiece tube is loosened. The eyepiece tube cannot be fastened only with the auxiliary fixing screw for the eyepiece tube.

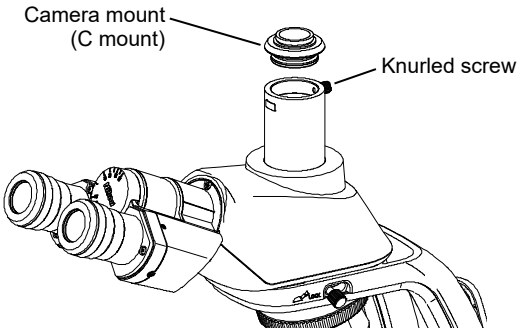
✔ **When screws are attached**

If you purchase the microscope without the eyepiece tube, the fixing screw and auxiliary fixing screw for the eyepiece tube are fitted into the screw holes and taped to prevent them from falling. When installing the eyepiece tube, peel off the tape and remove the two attached screws, and then follow the procedure described in “■Installing the eyepiece tube”.

3 Attach the camera mount

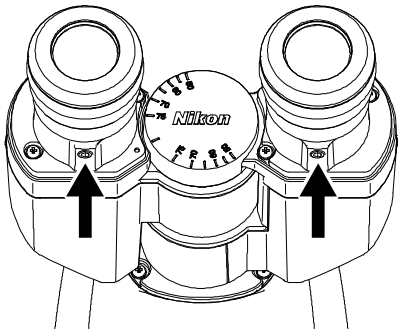
The camera mount (C mount) is attached to the camera port of the trinocular eyepiece tube.
Loosen the knurled screw on the camera port and remove the cap and C mount. Photomicrography becomes available after attaching the C mount to the camera, and then attaching it to the camera port. The optical path of the trinocular eyepiece tube is fixed at the ratio: binoculars : camera port = 50 : 50.
For details about photomicrography, refer to the instruction manual of the camera.
Do not lose the cap. When you do not attach the camera, make sure that the cap is placed on the camera port.





4 Install the eyepieces

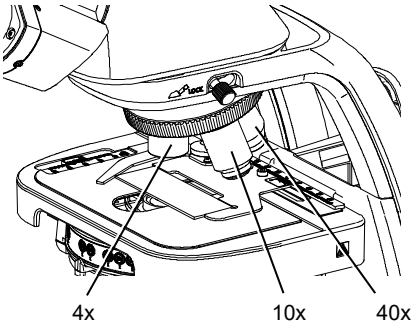
The 10x (Field No. 20) eyepieces are attached to the eyepiece tube before shipment.
When changing to a 15x (Field No. 18) eyepiece (optional), be sure to change both the right and left eyepieces together. The right and left eyepieces should be of the same magnification.



✔ **Replacement of eyepieces**
To remove the eyepieces, loosen the fixing screws for the eyepieces. The microscope does not come with a hexagonal wrench (the distance between opposite sides is 2.5 mm) to loosen the fixing screws. Contact your nearest Nikon representative if you have any questions.

5 Install the objectives

Screw an objective into the revolving nosepiece.
Screw the objective firmly to the end.
First, remove the specimen from the stage and lower the stage. Remove the objective while holding it by both hands so that it does not fall, and then install a new objective.
Set the objectives in such an order that the objective magnification increases as the revolving nosepiece is turned clockwise (as viewed from the top of the microscope).

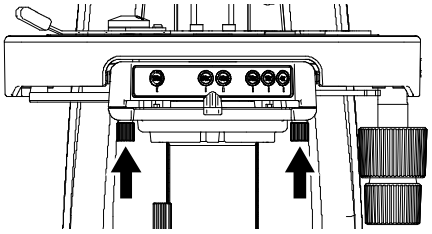


Example of order of installing the objectives

When you have purchased the microscope as a set, three objectives are already installed to the revolving nosepiece. When adding an objective or replacing the objective with another one, also install it in the magnification order as described above.

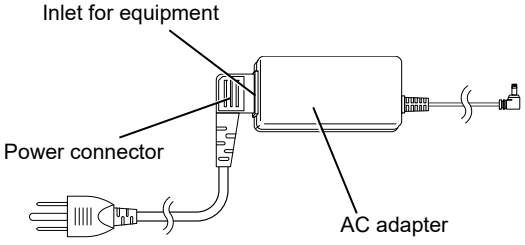
6 Install the condenser

The condenser is attached to the microscope before shipment.
If you remove the condenser and then re-install it, position the condenser with its adjustment position mark of aperture diaphragm facing front. Tighten the two condenser fixing screws.



7 Connect the AC adapter and power cord

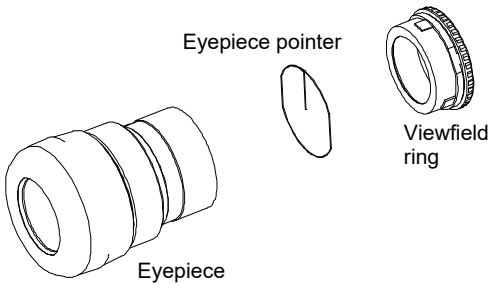
Plug the power connector of the specified power cord into the inlet for equipment of the AC adapter.
Specified power cord → Chapter 7, “Specifications” - Section 7.3, “Physical Properties”



8 Others

1) Eyepiece Pointer

The eyepiece pointer (optional) serves as a reference for pointing out the specimen to be observed. Attach the pointer to one of the eyepieces. Rotate and remove the viewfield ring from the eyepiece end. Attach the eyepiece pointer to the eyepiece and then put back the viewfield ring.



2) Filter Receptacle and Filters

Two ϕ45-mm filters can be placed on the upper surface of the field lens. (If the thickness is more than 2.5 mm, only one filter is allowed.)

5 Troubleshooting

Misuse of this product may adversely affect performance, even if this product is properly functional. If any of the following problems occurs, be sure to check the following table for possible causes before requesting service.

If you detect problems that are not listed below or the problem still persists after measures are taken, unplug the power cord of the device and contact your nearest Nikon representative.

5.1 Optical

Dirt or dust in the viewfield

Problems	Check Items
The specimen is dirty if dirt or dust moves when the specimen is moved on the stage.	☐ Clean the specimen.
Objective is dirty if dirt or dust disappears when the objective is switched.	☐ Clean the objective.
The eyepiece is dirty if dirt or dust does not move when the stage or objective is moved.	☐ Clean the eyepiece.
Aperture diaphragm is closed too far.	☐ Open properly. (→ Section 3.5)

Poor image quality, low resolution, or contrast too low or too high

Problems	Check Items
No coverglass is attached to the slide.	☐ Attach a coverglass 0.17 mm thick.
Coverglass is too thick or too thin.	☐ Use a coverglass of the specified thickness (0.17 mm).
Slide is upside down.	☐ Turn over the slide so that the cove glass faces up.
Lenses or specimen are dirty or dusty.	☐ Check dirty or dusty parts, and then clean them as appropriate by reference to the problems described in “Dirt or dust in the viewfield”. (→ Section 6.1)
Aperture diaphragm is opened or closed too far.	☐ Close or open properly. (→ Section 3.5)
No immersion oil is applied to the tip of the oil-immersion objective.	☐ Apply Nikon immersion oil to the objective. (→ Section 3.6)
Nikon immersion oil is not used for oil-immersion observation.	☐ Apply Nikon immersion oil to the objective. (→ Section 3.6)
Air bubbles in immersion oil.	☐ Remove bubbles. (→ Section 3.6)
Immersion oil adhering to the tip of the dry type objective (especially 40x objective).	☐ Clean the lens. (→ Sections 3.6, 6.1)
No coverglass is attached to the slide for observation.	☐ Attach a coverglass. 160/-: Can be used for both specimens with and without a coverglass.

Image too bright

Problems	Check Items
Setting of the brightness control knob	☐ Adjust the brightness by rotating the brightness control knob.

Insufficient brightness

Problems	Check Items
Setting of the brightness control knob	☐ Adjust the brightness by rotating the brightness control knob.
Aperture diaphragm is closed too far.	☐ Open properly. (→ Section 3.5)

Darkness at the periphery, no viewfield seen, or uneven viewfield brightness

Problems	Check Items
Revolving nosepiece is not in click-stop position. (the objective is not centered in the optical path).	☐ Revolve to click-stop position (swing the objective correctly into the optical path).
Dirt or dust on the lens (condenser, objective, field lens, eyepiece), specimen	☐ Clean dirt and dust. (→ Section 6.1)

Image dark on one side (One side of the viewfield (up, down, right, or left) is not focused.)

Problems	Check Items
Revolving nosepiece is not in click-stop position.	☐ Revolve to click-stop position.
Specimen rises from stage surface.	☐ Stabilize it using the holder.
The thickness of the sample (section) is not uniform and has a tilt.	☐ Prepare a sample (section) of uniform thickness.

Image shifts during focus (Becomes asymmetrically defocused when moving the focal point.)

Problems	Check Items
Revolving nosepiece is not in click-stop position.	☐ Revolve to click-stop position.
Specimen rises from stage surface.	☐ Stabilize it using the holder.
The thickness of the sample (section) is not uniform and has a tilt.	☐ Prepare a sample (section) of uniform thickness.

5.2 Operational

Image cannot be focused with high magnification objectives.

Problems	Check Items
Slide is upside down.	☐ Turn over the slide so that the coverglass faces up.
Coverglass is too thick.	☐ Use a coverglass of the specified thickness (0.17 mm).

High magnification objective contacts slide when changed over from low magnification.

Problems	Check Items
Slide is upside down.	☐ Turn over the slide so that the coverglass faces up.
Coverglass is too thick.	☐ Use a coverglass of the specified thickness (0.17 mm).
Diopter is not adjusted correctly.	☐ Adjust. (→ Section 3.4)
Objective is not attached correctly.	☐ Screw the objective all the way in. (→ Section 4.4)

Difference in focal point too large when switching from one objective to another

Problems	Check Items
Diopter is not adjusted correctly.	☐ Adjust. (→ Section 3.4)
Objective is not attached correctly.	☐ Screw the objective all the way in. (→ Section 4.4)

Image cannot be focused.

Problems	Check Items
The stage vertical movement stopper is lower than the focal position.	☐ Turn the stage stopper counterclockwise until it reaches the limit. (→ Section 3.8)

Binocular images are not integrated.

Problems	Check Items
Interpupillary distance is not adjusted correctly.	☐ Adjust. (→ Section 2.6)
Diopter is not adjusted correctly.	☐ Adjust. (→ Section 3.4)

Excessive eye fatigue during observation

Problems	Check Items
Interpupillary distance is not adjusted correctly.	☐ Adjust. (→ Section 2.6)
Diopter is not adjusted correctly.	☐ Adjust. (→ Section 3.4)
Inadequate brightness or illumination.	☐ Adjust brightness using the brightness control knob.

5.3 Electrical

Illumination does not turn on when the light ON/OFF switch is turned on.

Problems	Check Items
The AC adapter is not connected to the microscope main body.	☐ Insert the DC cord of the AC adapter into the DC input connector. (→ Section 2.2)
No electrical power.	☐ Insert the power cord connected with the AC adapter into an electrical outlet. (→ Section 2.2)

Flickering or unstable lamp brightness

Problems	Check Items
The AC adapter or power cord is not correctly connected.	☐ Connect correctly. (→ Sections 2.2, 4.6)

6 Care and Maintenance

6.1 Cleaning the Lenses

- Dust is best removed using a soft brush or gauze.
- More persistent dirt, such as fingerprints, grease and oil, may be removed with clean lens tissue (or soft cotton, gauze) lightly moistened with absolute alcohol (ethyl alcohol or methyl alcohol).
- To clean immersion oil off the oil-immersion type objective, use lens tissue, soft cotton or gauze lightly moistened with petroleum benzine. If petroleum benzine is not available, use methyl alcohol. In this case, you need to wipe 3 to 4 times because the detergency of the methyl alcohol is somewhat weak.
- Absolute alcohol and petroleum benzine are quite inflammable. Take great care when handling them and when turning the power switch on and off. Be very careful with fire.
- When using absolute alcohol and petroleum benzene, follow the instructions provided by the manufacturer.

6.2 Cleaning the Microscope

- We recommend that you use a silicon cloth to clean the microscope.
- For persistent dirt, dampen a piece of gauze with neutral detergent and wipe lightly.
- Do not use organic solvent (alcohol, ether, or thinner). Doing so may result in discoloration of the coating and plastic parts or removal of the printed text.

6.3 Disinfecting the Microscope

- We recommend that you use 70% medical alcohol for normal disinfection of the microscope.
- In case of spillage of a sample to the microscope, determine whether the sample is hazardous. If the sample is hazardous, follow the standard procedure of your laboratory.
- Using organic solvent may result in discoloration of the plastic parts.

6.4 Storing the Microscope

- When the microscope is not in use, put a vinyl dust cover over the product to protect it from dust, and store it in a dry place where mold is not likely to form.
- Before covering the microscope with the vinyl cover, unplug the power cord.
- We especially recommend that the objectives and eyepieces be kept in a container (such as a desiccator) with desiccant in it.

6.5 Periodical Inspections (Charged)

- To maintain the performance of the microscope, periodical inspections and maintenance are recommended.
- For details, contact your nearest Nikon representative.

7 Specifications

7.1 Microscopy (Principles)

Use the objective and eyepieces of the microscope to magnify minute cells and tissue optically, manipulate the lever and knobs of the microscope unit to adjust the focus or move the observation point. Then, observe the sample affixed to the slide.

■ Intended use of the product (for medical care)

This microscope is intended for use in microscopic experiment and diagnostics of cells and tissues at hospitals or by doctors in private practice in the field of pathology, anatomy, and cytology.

The microscopy with diascopic illumination is used to observe a sample fixed on the slide (cells and tissue) as the specimen.

The product is classified as an in-vitro diagnostic medical device. IVD

This product is not intended for use for measurement.

The scale on the focus knob and stage is an indicator to reproduce the position and does not guarantee the value of the thickness or length of a sample measured using this scale.

■ Intended user

It is intended for the medical professional and those who work on experimentations in the field of pathology and cytology.

7.2 Performance Properties

Model Name:	Main Body: ECLIPSE Ei R
Optical System:	CFI45 (Infinity-corrected CF optical system) Second objective focal length f = 200 mm Built-in diascopic illumination system (Simplified Kohler's illumination system)
Focusing Mechanism:	Fine focus knob graduation: 2 µm/graduation Fine focus knob travel: 0.2 mm up or down / revolution Coarse focus knob travel: 37.7 mm up or down / revolution Stage vertical movable range: From the focal plane 2 mm upward and 13 mm downward
Stage:	Stroke: Right and left axis: 76 mm Front and back axis: 30 mm
Revolving Nosepiece:	4-hole fixed type
Illumination Light Source:	LED

7.3 Physical Properties

Model Name:	Main Body: ECLIPSE Ei R
External dimensions and Mass (reference)*:	External dimensions: 198 (W) x 377 (H) x 259 (D) mm (Excluding protrusions) Mass (reference): Approximately 5.2 kg * For a set of Ei R and EC-T-TB Binocular eyepiece tube There are some differences in dimensions and mass depending on the details of the set.
Electrical shock protection class	Class III
Environmental conditions	Operation: Temperature: 0 to +40ºC Humidity: 60% RH Max. (at +40ºC) (no condensation) Storage and Transport: Temperature: -20 to +60ºC Humidity: 90% RH Max. (no condensation) Altitude: 2,000m Max. Pollution: Degree 2 Overvoltage category: Category II Indoor use only
Safety standards	• CE Marking • IVD Directive This equipment complies with the emission and immunity requirements of IEC/EN 61326-2-6. • Low Voltage Directive • EMC Directive • C-UL-US Listed • FCC Part 15 Subpart B Class A Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. • CAN ICES-003(A) / NMB-003(A) • Australian EMI (AS/NZS CISPR11)

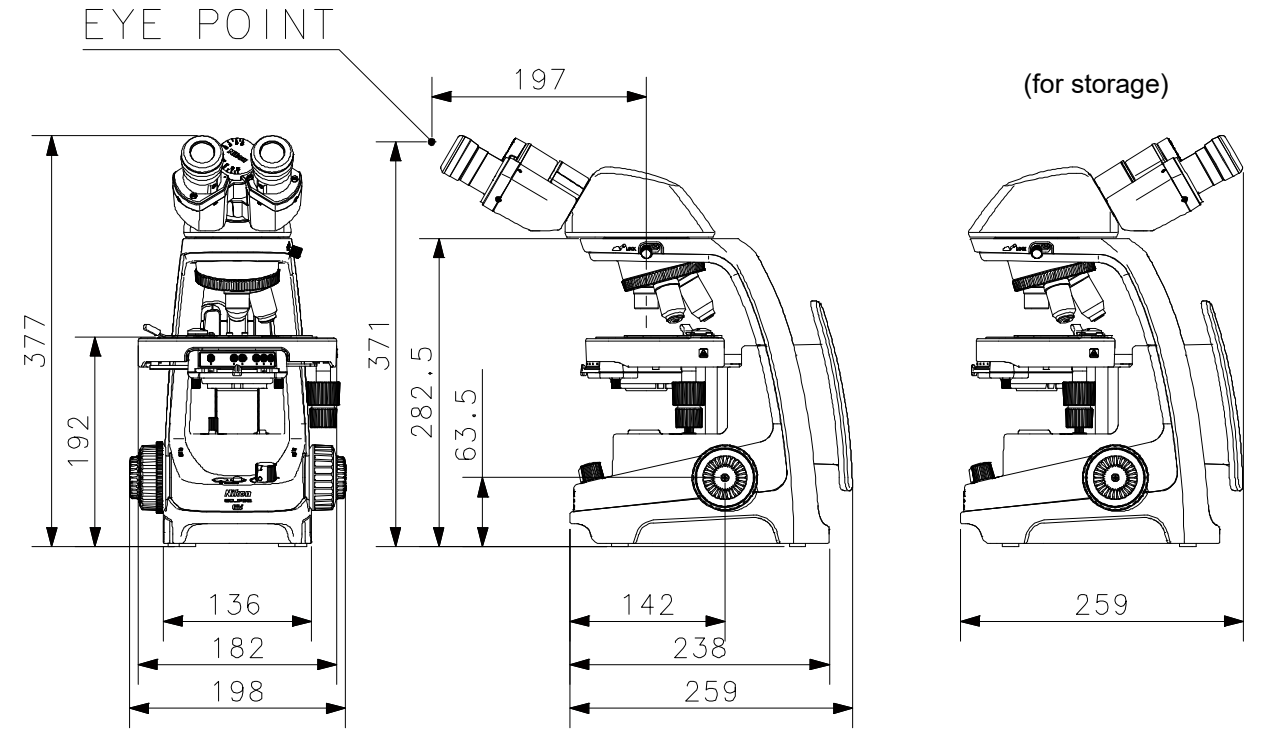
■ AC adapter

Name	AC adapter
Manufacturer's name or trade mark, commercial registration number and address	Adapter Technology Co., Ltd. 6F-9 No. 258 Liancheng Rd Zhonghe District New Taipei 235 TAIWAN
Model identifier	ATS018T-P050
Input voltage, input current	Universal 100-240 VAC, single phase, 0.48A Max.
Input AC frequency	50-60 Hz
Output voltage	5.0 VDC
Output current	3.0 A
Output power	15.0 W
Average active efficiency	82.6%
Efficiency at low load (10%)	79.6%
No-load power consumption	>0.04 W
External dimensions	50 (W) x 33 (H) x 100 (D) mm
Mass (reference)	Approx. 170 g (without the power cord)
Electrical shock protection class	Class I
Environmental conditions	Operation: Temperature: 0 to +40ºC Humidity: 20 to 80% RH (no condensation) Storage and Transport: Temperature: -20 to +80ºC Humidity: 10 to 90% RH (no condensation) Altitude: 2,000m Max. Pollution: Degree 2 Overvoltage category: Category II Indoor use only
Safety standards	CE marking, GS mark, C-UL-US Listed, PSE mark

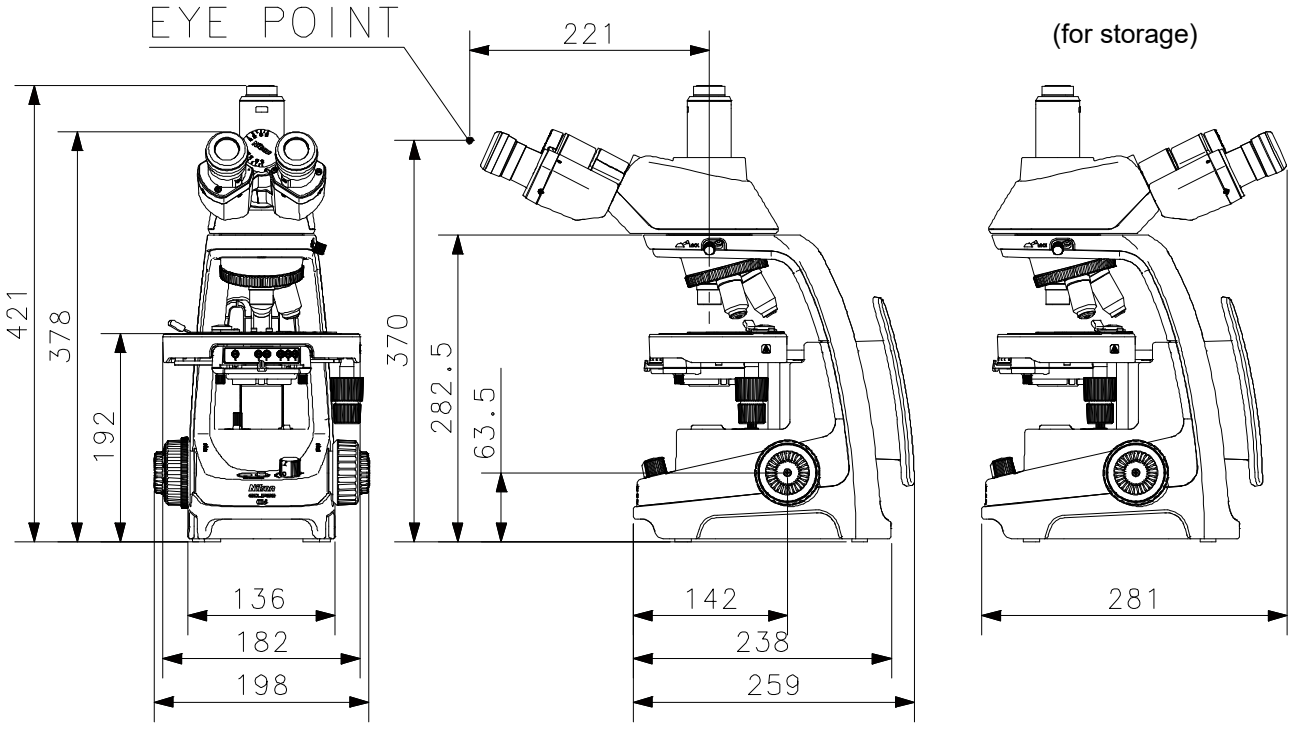
■ Power Cord

When used in Japan:	PSE approved detachable power cord set (3 conductor grounding Type VCTF 3x0.75mm^2, 3m long maximum, rated at 125 VAC minimum)
When used in a 100-120 V region, outside Japan:	UL listed detachable power cord set (3 conductor grounding Type SVT, NO.18 AWG, 3m long maximum, rated at 125 VAC minimum)
When used in a 220-240 V region:	EU/EN standard approved detachable power cord set (3 conductor grounding Type H05VV-F 1 mm^2, 3m long maximum, rated at 250 VAC minimum)

■ **External dimensions**



Binocular eyepiece tube set



Trinocular eyepiece tube set

En **Anti-fungal measures**

- In order to protect the inside of this product from fungi, the objectives, eyepieces and tubes are treated with germicide.
- The active substance used is IPBC.
- Active ingredients are classified as causing skin sensitization.

De **Pilzbekämpfungsmaßnahmen**

- Um das Innere dieses Produkts vor Pilzen zu schützen, werden die Objektive, Okulare und Röhrchen mit Keimtötungsmittel behandelt.
- Der verwendete Wirkstoff ist IPBC.
- Aktive Inhaltsstoffe werden als Ursache für Hautsensibilisierung eingestuft.

Fr **Mesures antifongiques**

- Afin de protéger l'intérieur de ce produit contre les champignons, les objectifs, les oculaires et les tubes sont traités au fongicide.
- La substance active utilisée est le butylcarbamate d'iodopropynyle (IPBC).
- Les ingrédients actifs sont classés comme responsables de la sensibilisation de la peau.

Es **Medidas antihongos**

- Para proteger el interior de este producto de los hongos, tratamos con germicida los objetivos, los oculares y los tubos.
- La sustancia activa que usamos es butilcarbamato de yodopropinilo (IPBC).
- Los ingredientes activos se clasifican según las causas de sensibilización de la piel.

Dk **Foranstaltninger mod svamp**

- For at beskytte den indvendige side af dette produkt mod skimmelsvamp, er objektiver, okularer og rør behandlet med bakteriedræbende middel.
- Det aktive stof, der anvendes i IPBC.
- Aktive ingredienser er klassificeret som årsag til hudsensibilisering.

Nl **Maatregelen tegen beschimmeling**

- Om de binnenkant van dit product te beschermen tegen beschimmeling, worden de objectieven, oculairs en buizen behandeld met kiemdodend middel.
- De gebruikte actieve stof is IPBC.
- Actieve bestanddelen worden geclassificeerd als stoffen die huidirritatie veroorzaken.

Pt **Medidas antifúngicas**

- Para proteger o interior deste produto contra fungos, as objetivas, as oculares e os tubos são tratados com germicida.
- A substância ativa utilizada é o IPBC.
- Os ingredientes ativos são classificados como causadores de reações alérgicas cutâneas.

It **Misure di prevenzione contro la formazione di funghi**

- Per proteggere l'interno del prodotto dalla formazione di funghi, obiettivi, oculari e tubi sono trattati con germicidi.
- La sostanza attiva utilizzata è il composto IPBC.
- Gli ingredienti attivi sono classificati come sostanze che provocano sensibilizzazione cutanea.

Se **Åtgärder mot svampangrepp**

- För att skydda produktens insida från svamp är objektiv, okular och rör behandlade med bakteriedödande medel.
- Den aktiva substansen som används är IPBC.
- De aktiva ingredienserna klassificeras som möjlig orsak till hudsensibilisering.

Fi **Homeenesto**

- Tuotteen sisäosien suojaamiseksi homeitiöiltä sen objektiivit, etsimet ja putket on käsitelty pieneliöitä tuhoavalla aineella.
- Vaikuttava aine on IPBC.
- Vaikuttavat ainesosat aiheuttavat ihon herkistymistä.

Gr **Μέτρα προστασίας από τους μύκητες**

- Για να προστατευτεί το εσωτερικό του προϊόντος από μύκητες, έχει εφαρμοστεί μικροβιοκτόνο στον αντικειμενικό φακό, στον προσοφθάλμιο φακό και στους σωλήνες.
- Η ενεργή ουσία που χρησιμοποιήθηκε είναι η IPBC.
- Τα ενεργά συστατικά ανήκουν στην κατηγορία αυτών που προκαλούν ευαισθητοποίηση της επιδερμίδας.

Pl **Środki zapobiegające wzrostowi grzybów**

- Aby chronić wnętrze tego produktu przed grzybami, obiektywy, okulary i tubusy są poddawane działaniu środków bakteriobójczych.
- Stosowana substancja czynna to IPBC.
- Składniki aktywne zostały sklasyfikowane jako powodujące reakcje uczuleniowe skóry.

Hu **Gomba elleni intézkedések**

- A termék belsejének gombáktól való védelme érdekében a tárgylencsét, a szemlencsét és a tubusokat fertőtlenítővel kezelik.
- A használt hatóanyag IPBC.
- A hatóanyagok bőrszenzibilizációt okozó anyagnak minősülnek.

Cz **Opatření proti houbám**

- Objektivy, okuláry a hlavice mikroskopu jsou ošetřeny dezinfekčním prostředkem, aby byl vnitřek produktu chráněn před houbami a plísněmi.
- Aktivní látkou je IPBC.
- Aktivní složky jsou klasifikovány jako látky způsobující zcitlivění kůže.

Jp **防菌対応**

- 本製品の内部を菌類から守るため、対物レンズ、接眼レンズ、鏡筒などを殺菌処理しています。
- 使用している活性物質は IPBC です。
- 有効成分は皮膚感作性に分類されます。

En Symbol for separate collection applicable in European countries

This symbol indicates that this product is to be collected separately.
The following apply only to users in European countries.

- This product is designated for separate collection at an appropriate collection point. Do not dispose of as household waste.
- For more information, contact the retailer or the local authorities in charge of waste management.

De Symbol für getrennte Wertstoff-/Schadstoffsammlung in europäischen Ländern

Dieses Symbol zeigt an, dass dieses Produkt separat entsorgt werden muss.
Folgendes gilt für Verbraucher in europäischen Ländern:

- Dieses Produkt darf nur separat an einer geeigneten Sammelstelle entsorgt werden. Eine Entsorgung im Hausmüll ist unzulässig.
- Wenden Sie sich für nähere Informationen bitte an Ihren Händler oder die örtlich für Abfallentsorgung zuständigen Behörden.

Fr Symbole pour la collecte sélective applicable aux pays européens

Ce symbole indique que ce produit doit être collecté séparément.
Les mesures suivantes concernent uniquement les utilisateurs européens.

- Ce produit doit être jeté séparément dans un point de collecte approprié. Ne jetez pas ce produit dans une poubelle réservée aux ordures ménagères.
- Pour plus d'information, contactez le détaillant ou les autorités locales responsables de la gestion des ordures.

Es Símbolo para recogida separada aplicable en países Europeos

Este símbolo indica que este producto se recogerá por separado.
Lo siguiente sólo se aplicará en países Europeos.

- Este producto ha sido designado para su recogida en un punto de almacenamiento apropiado. No lo tire como un deshecho doméstico.
- Para más información, contacte con el vendedor o autoridades locales al cargo de la gestión de residuos.

Dk Symbol for special bortskaffelse af denne type produkter i de europæiske lande

Dette symbol angiver, at dette produkt skal bortskaffes specielt.
Det efterfølgende er kun til forbrugere i de europæiske lande.

- Dette produkt skal bortskaffes på fx en genbrugsplads el .lign. Det må ikke smides væk som normalt husholdningsaffald.
- For yderligere information kontakt din forhandler eller de lokale myndigheder, som fx teknisk forvaltning.

Nl Symbool voor gescheiden inzameling zoals dat wordt gebruikt in Europese landen

Dit symbool betekent dat dit product apart moet worden ingezameld.
Het volgende is alleen van toepassing op gebruikers in Europa

- Dit product dient gescheiden ingezameld te worden op een daartoe bestemd inzamelpunt. Niet wegwerpen bij het normale huisvuil.
- Neem voor meer informatie contact op met het verkooppunt, of met de lokale instantie die verantwoordelijk is voor het verwerken van afval.

Pt Símbolo para recolha de resíduos em separado utilizado nos países Europeus

Este símbolo indica que este produto é para ser recolhido separadamente.
Esta norma aplica-se só para os utilizadores nos países Europeus.

- Este produto está designado para recolha de resíduos em separado num recipiente apropriado. Não deitar no caixote do lixo doméstico.
- Para mais informações, contactar o revendedor ou as autoridades locais responsáveis pela gestão dos resíduos.

It Simbolo per la raccolta differenziata applicabile nei paesi europei

Questo simbolo indica che il prodotto va smaltito separatamente.
La normativa che segue si applica soltanto agli utenti dei paesi europei.

- Il prodotto è designato per lo smaltimento separato negli appositi punti di raccolta. Non gettare insieme ai rifiuti domestici.
- Per maggiori informazioni, consultare il rivenditore o gli enti locali incaricati della gestione dei rifiuti.

This symbol is provided for use in the People's Republic of China, for environmental protection in the fields of electronic information products.

このマークは、中国のお客様に向けたもので、電子情報製品分野における環境保護を目的としています。

No Symbol for kildesortering i europeiske land

Dette symbolet indikerer at produktet skal kildesorteres.
De nedenstående punktene gjelder for alle europeiske brukere.

- Dette produktet skal kildesorteres og innleveres til dedikerte innsamlingspunkter. Må ikke kastes med normalt husholdningsavfall.
- For mer informasjon, ta kontakt med din forhandler eller lokale myndigheter.

Se Symbol för separat upphämtning i euopeiska länder

Den här symbolen anger att produkten måste hämtas separat.
Följande gäller bara användare i europeiska länder.

- Den här produkten är avsedd för separat upphämtning vid ett lämpligt uppsamlingsställe. Produkten får inte kastas i hushållsavfall.
- För mer information, kontakta återförsäljaren eller de lokala myndigheter som ansvarar för avfallshantering.

Fi Erillisen keräyksen merkki Euroopan maissa

Tämä merkki osoittaa, että tuote kerätään erikseen.
Seuraavat maininnat koskevat vain eurooppalaisia käyttäjiä.

- Tämä tuote kerätään erikseen asianmukaisista keräyspisteistä. Älä hävitä tuotetta talousjätteiden mukana.
- Lisätietoja saat jälleenmyyjältä tai paikallisilta jätehuoltoviranomaisilta.

Ru Символ сортировки мусора, использующийся в европейских странах

Данный символ означает, что этот продукт должен утилизироваться отдельно от других.
Приведенная ниже информация касается только пользователей из стран Европы.

- Данный продукт должен утилизироваться отдельно от других в соответствующих приемных пунктах. Не выбрасывайте данный продукт вместе с бытовым мусором.
- Дополнительную информацию Вы можете получить у продавца или у местных властей, отвечающих за утилизацию мусора.

Gr Σύμβολο για την ξεχωριστή αποκομιδή απορριμμάτων στις Ευρωπαϊκές χώρες

Αυτό το σύμβολο υποδηλώνει ότι η αποκομιδή αυτού του προϊόντος πρέπει να γίνει ξεχωριστά.
Τα κάτωθι απευθύνονται μόνο σε Ευρωπαίους χρήστες.

- Αυτό το προϊόν είναι σχεδιασμένο έτσι ώστε να γίνεται η αποκομιδή του σε ειδικά σημεία. Μην το πετάτε μαζί με τα υπόλοιπα απορρίμματα.
- Για περισσότερες πληροφορίες, επικοινωνήστε με τον διανομέα του προϊόντος ή με τις υπεύθυνες τοπικές αρχές για θέματα διαχείρισης απορριμμάτων.

Pl Symbol oznaczający segregowanie odpadów, stosowany w krajach Europy

Ten symbol oznacza, że produkt musi być wyrzucany oddzielnie.
Poniższe uwagi mają zastosowanie tylko dla użytkowników z Europy.

- Ten produkt jest przeznaczony do oddzielnej utylizacji i powinien być dostarczony do odpowiedniego punktu zbierającego odpady. Nie należy go wyrzucać z odpadami gospodarstwa domowego.
- Aby uzyskać więcej informacji, należy skontaktować się z przedstawicielem przedsiębiorstwa lub lokalnymi władzami odpowiedzialnymi za zarządzanie odpadami.

Hu Európai országokban érvénes "Elkülönített hulladékgyűjtés" jelzése

Ez a jelzés azt jelenti, hogy ezt a terméket elkülönítve kell gyűjteni.
Az alábbiak csak az európai országokban élő felhasználókra érvényes.

- Ezt a terméket a megfelelő hulladékgyűjtőhelyen, elkülönítve kell gyűjteni. Ne dobja ki háztartási hulladékként.
- További információkért forduljon a forgalmazóhoz, vagy a helyi hatóság hulladékgyűjtésért felelős részlegéhez.

Cz Symbol pro oddělený sběr odpadu platný v evropských zemích

Tento symbol znamená, že tento produkt se má odkládat odděleně.
Následující pokyny platí pro uživatele z evropských zemí.

- Tento produkt se má odkládat na místě sběru k tomuto účelu určeném. Neodhazujte spolu s domácím odpadem.
- Více informací o způsobu zacházení s nebezpečným odpadem vám podá příslušná místní instituce.

Jp ヨーロッパにおける廃棄物個別回収のシンボルマーク

このシンボルマークは本製品が個別に回収されなければならないことを示しています。
次項は本製品をヨーロッパ（EU）で使用する場合にのみ適用されます。

- 本製品は指定された収集場所で個別に回収されるように定められています。家庭ゴミとして廃棄しないでください。
- 詳細については販売代理店または地域の廃棄物処理機関にご連絡ください。

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