

NIB900

INVERTED LABORATORY MICROSCOPE



INSTRUCTION MANUAL

NIB900
INVERTED
LABORATORY
MICROSCOPE

Nexcope[®]
Scientific research microscope

WARRANTY TERMS

DE Besuchen Sie unsere Website über den folgenden QR Code oder Weblink um weitere Informationen zu diesem Produkt oder die verfügbaren Übersetzungen dieser Anleitung zu finden.

EN Visit our website via the following QR Code or web link to find further information on this product or the available translations of these instructions.

FR Si vous souhaitez obtenir plus d'informations concernant ce produit ou rechercher ce mode d'emploi en d'autres langues, rendez-vous sur notre site Internet en utilisant le code QR ou le lien correspondant.

NL Bezoek onze internetpagina via de volgende QR-code of weblink, voor meer informatie over dit product of de beschikbare vertalingen van deze gebruiksaanwijzing.

ES Desearía recibir unas instrucciones de uso completas sobre este producto en un idioma determinado? Entonces visite nuestra página web utilizando el siguiente enlace (código QR) para ver las versiones disponibles.

IT Desidera ricevere informazioni esaustive su questo prodotto in una lingua specifica? Venga a visitare il nostro sito Web al seguente link (codice QR Code) per conoscere le versioni disponibili.



<https://www.bresser.de/brand/Nexcope/>

WARRANTY

The regular guarantee period is 2 years and begins on the day of purchase. To benefit from an extended voluntary guarantee period as stated on the gift box, registration on our website is required. You can consult the full guarantee terms as well as information on extending the guarantee period and details of our services at www.bresser.de/warranty_terms.



www.bresser.de/warranty_terms

SERVICE

DE AT CH BE

Bei Fragen zum Produkt und eventuellen Reklamationen nehmen Sie bitte zunächst mit dem Service-Center Kontakt auf, vorzugsweise per E-Mail.

E-Mail: service@bresser.de
Telefon*: +49 28 72 80 74 210

BRESSER GmbH
Kundenservice
Gutenbergstr. 2
46414 Rhede
Deutschland

*Lokale Rufnummer in Deutschland (Die Höhe der Gebühren je Telefonat ist abhängig vom Tarif Ihres Telefonanbieters); Anrufe aus dem Ausland sind mit höheren Kosten verbunden.

GB IE

Please contact the service centre first for any questions regarding the product or claims, preferably by e-mail.

E-Mail: service@bresseruk.com
Telephone*: +44 1342 837 098

BRESSER UK Ltd.
Suite 3G, Eden House
Enterprise Way
Edenbridge, Kent TN8 6HF
Great Britain

*Number charged at local rates in the UK (the amount you will be charged per phone call will depend on the tariff of your phone provider); calls from abroad will involve higher costs.

FR BE

Si vous avez des questions concernant ce produit ou en cas de réclamations, veuillez prendre contact avec notre centre de services (de préférence via e-mail).

E-Mail: sav@bresser.fr
Téléphone*: 00 800 6343 7000

BRESSER France SARL
Pôle d'Activités de Nicopolis
314 Avenue des Chênes Verts
83170 Brignoles
France

*Prix d'un appel local depuis la France ou Belgique

NL BE

Als u met betrekking tot het product vragen of eventuele klachten heeft kunt u contact opnemen met het service centrum (bij voorkeur per e-mail).

E-Mail: info@bresserbenelux.nl
Telefoon*: +31 528 23 24 76

BRESSER Benelux B.V.
Donau 5-12
7908 HA Hoogeveen
Nederland

*Het telefoonnummer wordt in het Nederland tegen lokaal tarief in rekening gebracht. Het bedrag dat u per gesprek in rekening gebracht zal worden, is afhankelijk van het tarief van uw telefoon provider; gesprekken vanuit het buitenland zullen hogere kosten met zich meebrengen.

ES PT

Si desea formular alguna pregunta sobre el producto o alguna eventual reclamación, le rogamos que se ponga en contacto con el centro de servicio técnico (de preferencia por e-mail).

E-Mail: servicio.iberia@bresser-iberia.es
Teléfono*: +34 91 67972 69

BRESSER Iberia SLU
c/Valdemorillo,1 Nave B
P.I. Ventorro del Cano
28925 Alcorcón Madrid
España

*Número local de España (el importe de cada llamada telefónica dependen de las tarifas de los distribuidores); Las llamadas des del extranjero están ligadas a costes suplementarios..

SERVICE



We recommend that you study this manual thoroughly before operating the microscope for the first time. It will help you become fully familiar with the equipment and achieve optimum performance. Keep this manual in an easily accessible place near the work area for future reference.

Changes in the interest of the technical development are reserved. These instruction manual is not subject to the revision service. The reproduction of this document as well as the use and communication of its contents are not permitted unless expressly permitted. Contraventions obligate to compensation for damages. All rights in the event of a patent being granted or utility model registration reserved.

IMPORTANT NOTES

IMPORTANT NOTES

This chapter informs the user about the general instructions for the microscope and the important safety symbols.

Imprint/validity information

Imprint

Bresser GmbH
Gutenbergstraße 2
46414 Rhede Deutschland
<http://www.bresser.de>

For information regarding liability claims or service requests, please refer to chapters "Warranty" and "Service" in this documentation. Errors reserved - technical specifications subject to change.

Copyright: 2026 Bresser GmbH
All rights reserved.

It is not allowed to reproduce this documentation or parts of it in any kind (e.g. photocopying, printing, etc.) without written permission of the manufacturer or the distributor, Bresser GmbH. It is also prohibited to use or transmit this documentation with electronic systems (e.g. image file, website, etc.). The descriptions and brand names of the corresponding firms used in this documentation are generally protected under trademark, brand and/or patent law for Germany, for the European Union and/or other countries.

Validity information

This documentation is valid for the products with the article numbers listed below:
NIB900

Manual version: v062026a

Manual description: Manual_NX40900_NIB900_en_NEXCOPE_v062026a

For any inquiries, please state these information.

About this instruction manual/intended use

About this instruction manual

These operating instructions are to be considered a component of the device.



PLEASE READ THE SAFETY INSTRUCTIONS AND THE OPERATING INSTRUCTIONS CAREFULLY BEFORE USE. Keep these instructions available for further reference when using the microscope. When the device is sold or given to someone else, the instruction manual must be provided to the new owner/user of the product.

Intended use

- This product is intended for private and corporate use.
- It was developed for the magnified display of things in nature.
- The device is intended only for indoor use.



This device is not intended for use by individuals (including children) with limited physical, sensory or mental capabilities or those lacking in experience and/or knowledge, unless they are supervised by an individual responsible for their safety or have received instructions from them regarding the use of the device.

IMPORTANT NOTES

General safety instructions

Danger of an electronic shock!

This device contains electronic components that operate via a power source (power supply and/or batteries). In case of any improper use of this device, there is a risk of an electric shock. An electric shock can cause severe injury or even death. Therefore please read the safety instructions below to avoid an explosion.

- Disconnect the device from the power supply by pulling the power plug when it is not used or in case of longer interruption of operation and before starting any work on maintenance and cleaning.
- Position your device so that it can be disconnected from the power supply at any time. The wall socket you use should be located near the device and easily accessible, since the plug on the power cable serves as a disconnecting device for the power supply.
- Always pull on the plug to separate the device from the power supply. Never pull on the cable.
- Before operating, check the device, cables and connections for damage.
- Never use a damaged unit or a unit with damaged power cables. Damaged parts must be exchanged immediately by an authorised service centre.
- Only use the device in complete dry environment and do not touch it with wet or moist parts of your body.
- The microscope is equipped with a power supply unit which allows the use of mains voltage values of 12 V; 2 A.
- To avoid electric shock, connect the supplied power cord to a properly grounded power outlet on. These mains cables are fitted with three-pin plugs to ensure proper earthing.

Danger of choking!

In case of any improper use of this device, there is a risk of choking, especially for children. Therefore please read the safety instructions below.

- Keep packaging material, like plastic bags and rubber bands, out of the reach for children, as these materials pose a choking hazard!
- This product contains small parts that can be swallowed by children! There is a risk of choking!
- If small parts are swallowed, consult a doctor immediately!

Danger of explosion!

In case of any improper use of this device, there is a risk of an explosion. Therefore please read the safety instructions below to avoid an explosion.

- Do not expose the device to high temperatures. Use only the supplied power adapter. Do not short-circuit the device or throw them into a fire. Excessive heat or improper handling could trigger a short-circuit, a fire or an explosion.
- Do not use the microscope and the accessories supplied with them in potentially explosive atmospheres, in the presence of flammable solvents such as alcohol, petrol or volatile anaesthetics, etc..

CAUTION: Danger of injury!

This device contains components and/or accessories that can cause minor to severe injuries in case of any proper use. Therefore please read the safety instructions below to avoid any bodily injury.

- Tools with sharp edges and points are often used when working with this device. Because there is a risk of injury from such tools, store this device and all the tools and accessories in a location that is out of the reach of children.
- Children must not have access to the included chemicals and liquids. Do not drink the chemicals. Wash hands thoroughly with running water after using the chemicals. In the event that the chemicals come into contact with your eyes or mouth, rinse thoroughly with water. If you are in pain after exposure, contact a doctor immediately and take the substances with which you came into contact with you.

IMPORTANT NOTES

CAUTION: Fire hazard!

In case of any improper use of this device, there is a risk of fire. Therefore please read the safety instructions below to avoid the initiation of burning.

NOTICE: Risk of property damage!

In case of any improper use of this device and/or its accessories, there is a risk of property damage. Therefore only use the device according to the safety instructions below.

- Do not disassemble the device. In the event of a defect, please contact your dealer. The dealer will contact the Service Centre and can send the device in to be repaired, if necessary.
- Do not expose this device to higher temperatures and protect it from water and high humidity.
- Protect the device from severe shocks!
- For this device only use accessories and spare parts that comply with the technical information.
- Always use the power cord supplied by Nexcope. If an unsuitable power cord is used, Nexcope can no longer guarantee the electrical functionality and safety of the microscope.
- Use these microscope and the original accessories only for the applications described in this manual.
- The manufacturer does not accept any liability for any other application, possibly also for individual assemblies or individual parts. This also applies to all repair and service work that is not carried out by authorised service personnel. Therefore all guarantee / warranty claims expire.
- The microscope is not equipped with any special device to protect against corrosive, toxic, potentially infectious or radioactive samples or other samples that are harmful to health equipped. All legal requirements, in particular national regulations for accident prevention, must be observed when handling such samples.

Note!

If you have any complaints or queries please contact your national service centre by telephone. The address is included in these instructions.

Check scope of delivery and handling

- Open the packaging with care. Avoid fingerprints and sweat on the objective lens and the glass plate. Prevent the objective and the glass plate from falling and being damaged.
- Remove all components from the packaging and check for completeness according to the delivery note. The microscope could be packaged in more than one carton depending on the model or accessories.
- Handle the microscope with care and always protect it against violent impact and vibrations.
- Keep the original packaging for possible longer storage or return of the device to the supplier in case a repair or revision is needed.



Never lift the microscope by the trinocular viewing head or coarse/fine focusing knobs. This can damage the microscope!



- Always carry the microscope with both hands.
- It is recommended to carry the microscope by the carrying handle, stand base as well as by the stand column.

Site location

BEFORE SETTING UP THE MICROSCOPE: select a suitable location.

Place the microscope on a resistant surface away from strong sunlight, heat sources, high humidity, high dust exposure as well as strong vibration.



- The ambient temperature range of the microscope is 5°C to 40°C (41°F to 109°F)!
- If the device is exposed to temperatures outside this range, this will cause irreparable damage to optical and/or mechanical parts which are not covered by warranty.

- Place the microscope on a surface that meets the following criteria:
 - › Flat
 - › Vibration-free
 - › Level
 - › Hard surface and non-flammable
 - › Stable (the unit weighs approximately 10.5 kg)
- Chemical and mechanical resistant
- Place the microscope so that:
 - › There is at least 10 cm clearance around the device or to other devices or the wall.
 - › You can disconnect it from the mains at any time.
- The mains cable must be freely accessible at all times, as the mains cable is intended as a disconnecting device from the mains.
- Make sure the residual moisture is fully eliminated before use.
- For use in warm and humid climates, all optical components of the microscope are already equipped with protection against fungus infestation.

Cleaning/maintenance/transport



IN THE EVENT OF A LONG OPERATING INTERRUPTION and especially maintenance and cleaning work, disconnect the power supply by pulling out the mains plug.



BEFORE EVER CLEANING: Dismantle optical elements (e.g. objective, eyepiece, etc.).



BEFORE USING THE MICROSCOPE: The residual moisture should be completely removed.



DO NOT USE ORGANIC SOLVENTS (e.g. alcohol, ether, acetone, xylol or other dilutions) to clean lacquered parts or plastic parts!



ALCOHOL IS HIGHLY FLAMMABLE!



AVOID DAMAGE TO THE ELECTRONICS: by not using cleaning fluid.



IF YOU USE PREPARATIONS that pose a potential risk of infection, all parts that have come into contact with the preparation must be thoroughly cleaned.



TRANSPORT: Please remove all loose parts (e.g. glass plate, eyepieces) and the object to be observed from the glass plate. Only use the original packaging for transport.

Cleaning microscope body / optical elements

- Only use a dry cloth to clean the exterior of the device.
- BEFORE CLEANING: Disassemble optical elements (e.g. objective, eyepiece, etc.).
- Blow away loose dust from the lens surfaces first.
- Use a soft disposable paper cloth soaked in 30%-70% pure alcohol (available at the pharmacy or drugstore). Do not apply the cleaning solution directly to the optical parts. Gently wipe the lens surface by cleaning the surface with circular movements from the centre to the edge of the optic. Apply light pressure to the optics while doing this.

Protection and storage

- PROTECT THE DEVICE against dust and moisture.
- AVOID PUTTING FINGERPRINTS and equal contaminations on any optical surfaces.
- PULL A DUST PROTECTION COVER OVER THE MICROSCOPE. Before covering the microscope, always check that the microscope is also switched off.
- IT IS RECOMMENDED to store this microscope in a protected place where there are no acid gases, alkalis, organic solvents and other harmful substances in the vicinity.
- STORE THE MICROSCOPE in a closed container at a dry and mould-free place.
- STORE THE MICROSCOPE AND THE ACCESSORIES in the relevant containers when they are not used for a longer time.
- IT IS RECOMMENDED to store also the objective and the eyepieces in closed containers with desiccant.



A dust protection cover is included in delivery.



REMEMBER: A well maintained microscope will keep its optical quality for years and thus maintain its value.

Disposal

Dispose of the packaging materials properly, according to their type, such as paper or cardboard. Contact your local waste-disposal service or environmental authority for information on the proper disposal.

Please take the current legal regulations into account when disposing of your device. You can get more information on the proper disposal from your local waste-disposal service or environmental authority.



DO NOT DISPOSE of electronic devices in the household garbage!

As per Directive 2002/96/EC of the European Parliament on waste electrical and electronic equipment and its adaptation into German law, used electronic devices must be collected separately and recycled in an environmentally friendly manner.

This manual is written for NIB900 research grade inverted biological microscope. To ensure the safety, obtain optimum performance and to familiarize yourself fully with the microscope, it is strongly recommended that you read this manual carefully before operating the microscope and put this manual in a place easy to get for reference.

We provide you the most safety and reliable instruments, but improper operate and ignorance of precautions may lead to a personal injury or a loss of property. To insure the right operating method, we hope you read this manual carefully before you use the product. Besides, it's highly recommended you to put this manual in a place easy to get for easy reference.

In this manual the safety notices will be emphasized by the below symbols, please obey the statement of these symbols.

Symbol	Meaning
 WARNING	Ignore this symbol may lead to a serious personal injury even death.
 NOTICE	Ignore this symbol may lead to a personal injury or a

	property loss.
--	----------------

The meaning of symbols on the product

Symbol	Meaning
	Conductor protect terminal
	Caution of hot! Remind you of this situation: The lamp house and spaces nearby will get hot when using. Do not touch the lamp house in 30 minutes when it's closed and when it's on. The lamp house may still extremely hot after it's closed, please ensure enough cooling time before replacing the bulb
	This symbol appears in the electrical name board to remind you to make sure the voltage of your area is the same to the input voltage
	Turn on the power , rotate the brightness knob to adjust the brightness of the field of view
	Turn off the power
	UV radiation
	Turn off the power before open the device

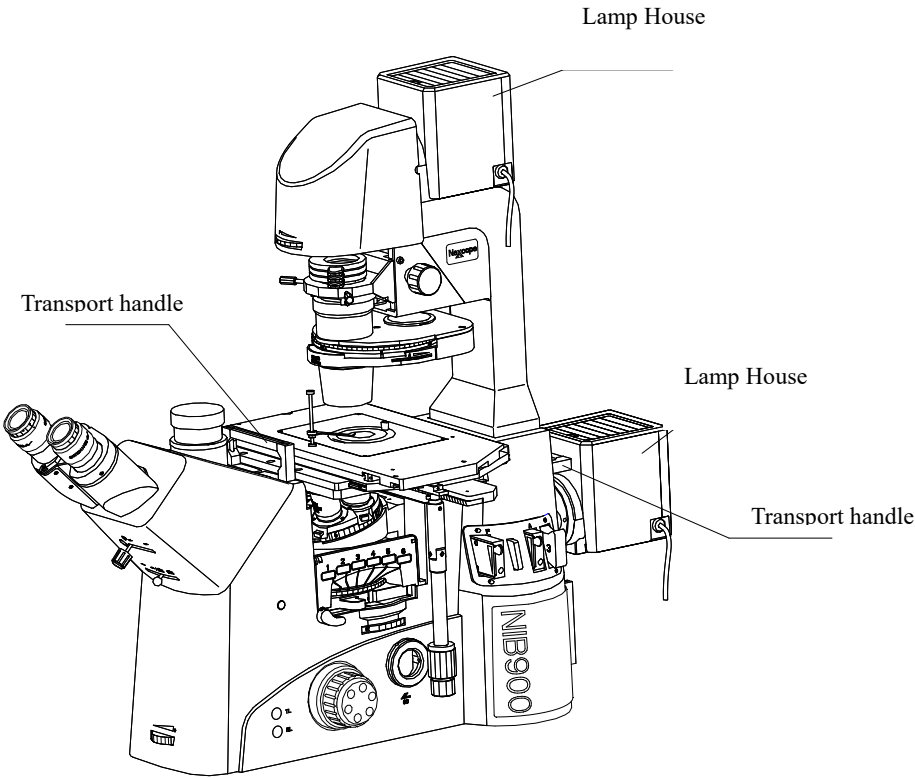
CONTENTS

Safety precautions	4
I . Structure and names	5
II . Applications	6
III. Assembly	7
IV. Operating and adjusting.....	15
V . Basic observation	20
VI. Microscopy imaging	24
VII. Technical specifications	26
VIII. Configuration diagram	28
IX. Trouble shooting	29
X .Maintenance	31

XI. Product standard 31

XII. Company information 31

Safety Precautions

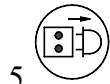


1. Avoid placing the microscope in a place exposed to direct sunlight, with high temperature, with high humidity or easily vibrated, make sure the platform is flat, horizontal and stable enough. (weight of the mainframe is 29.5kg)
2. When moving the microscope, hold the transport handle tightly and keep a distance between the microscope and the platform before actually moving it.(shown in picture above)
3. If bacterial solution or water is dripped over the stage, objective or observe tube, turn off the power supply immediately and wipe out the solution, otherwise the instrument maybe damaged.

4.



When operating, the lamp house can be considerably hot, make sure there is enough space around the lamp house for heat dissipation to avoid the heat accumulates and damage the instrument.



Before turn on the power of lamp house, make sure the power supply is connected properly.

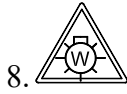
Before replacing the bulb or fuse, turn off the power and wait until the lamp house cooled completely.

★the indicate bulb: 12V 100W HAL high brightness halogen bulb (OSRAM)

★the fuse should load the correct melting current, do not use a temporary fuse in case of the broken circuit.

6. Connect the power wires correctly, make sure the instrument is grounded in case of lightning stroke.

7. Use the dedicated electric wires.



The halogen lamp can radiate UV light thus may cause a burn of eyes and skins. Do not see through the light directly and take protective measures when using the microscope as much as possible.

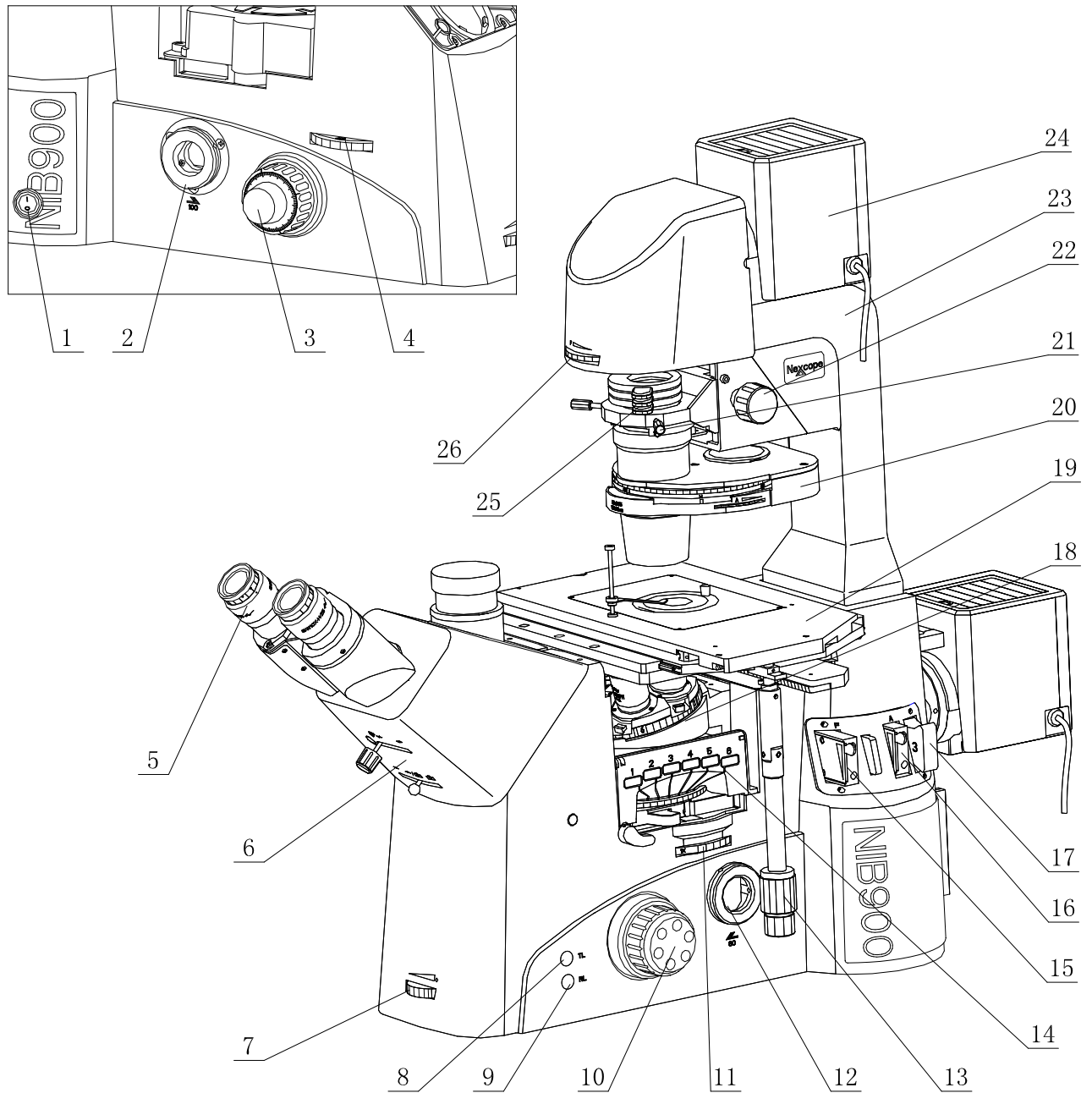
9. The product should store in a place with shelter and no acid gas, alkali, organic solvent or any harmful substances around.

★ a 3-pin plug is reserved for the machine for safety concern , the machine is grounded through the 3-pin plug. Do not use any other adapter plug or e the safety performance may decrease.

★Do not put the instrument in a place where is hard to cut off the melting current.

★The protective offered by the device may be damaged if the device is not used in the way indicated by our company.

I Structure and Names



Pic. 1

Component names:

- 1 Power switch
- 2 Left camera port
- 3 Left coarse/fine focusing handwheel
- 4 Side ports converter(light path convert—left and right side ports/observe)
- 5 Eyepiece
- 6 Trinocular tube
- 7 Brightness adjustment knob
- 8 Transmitted illumination shutter
- 9 Reflected illumination shutter
- 10 Right coarse/fine focusing handwheel
- 11 Middle magnification converter
- 12 Right camera port
- 13 X/Y axis handwheel of sample stage
- 14 Multifunction module turntable
- 15 Field diaphragm of reflected light
- 16 Aperture diaphragm of reflected light
- 17 3-hole filter spile
- 18 Objective converter
- 19 Sample stage

- 20 Turntable condenser
- 21 Condenser centring screw
- 22 Lifting handwheel of condenser
- 23 Transmitted illumination support
- 24 12V 100W illumination lamp house
- 25 Filter support
- 26 Field diaphragm of transmitted light

II Applications

The NIB900 inverted biological microscope is mainly used to study the cells, cultured organization and sediment in culture bottles and culture dishes using transmitted and reflected light.

This device can be used in bright field, dark field, phase contrast, differential interference contrast, polarized light and fluorescence observation.

Main application of this device: study of human blood and tissue samples, observation of the connection, activity and growth between live cells, drug reaction, minimally invasive, external fertilization, toxicity test, digital record, automatic continuous time-point observation, single molecule detection..etc.

III Assembly

Preparation before assemble and operate the microscope

Tear down the packaging of the mainframe and the accessories.

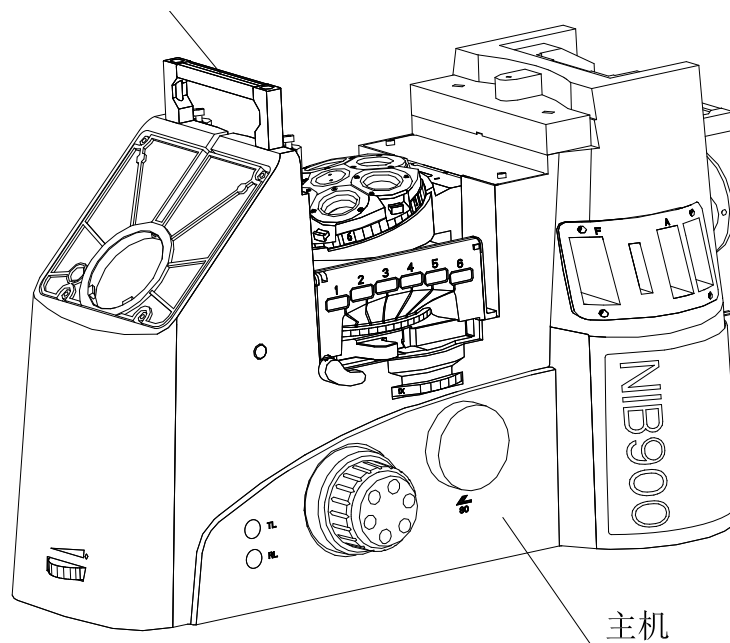
The packaging include of mainframe, eyepieces, objectives, condenser support, lamp house and other accessories such as filters, DIC blocks, dust-proof shield, tools and user manual. The optional accessories will be packaged individually.

1. Tear down all the packaging, check the goods and confirm the accordance with the products you purchased.
2. Dismantle the transport handles shown in pic.2.

Put the mainframe in a vibrate-proofed platform and then dismantle the handle with 4mm hexagon screwdriver.

★Please take proper preservation of the handles.

Transport handle



Assembly

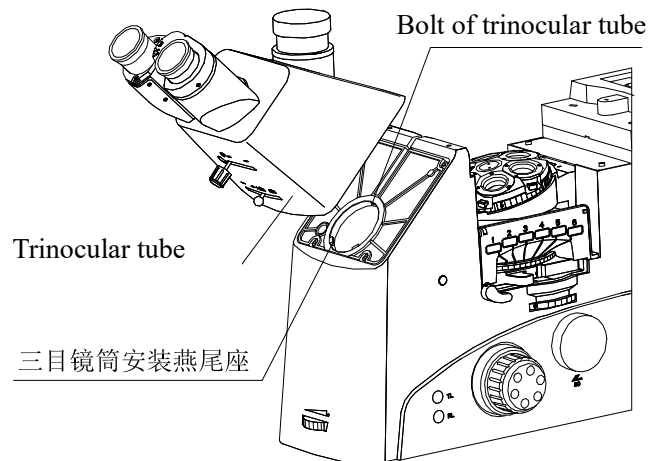
Pic.2

1. Trinocular tube

① Use a 2mm hexagon screwdriver to loosen the bolt, take out the dust cover.

② Calibrate the trinocular tube and the swallow tail, fix it by 2mm hexagon screwdriver.

★ Do hold the trinocular tube tightly in order not to fall down.



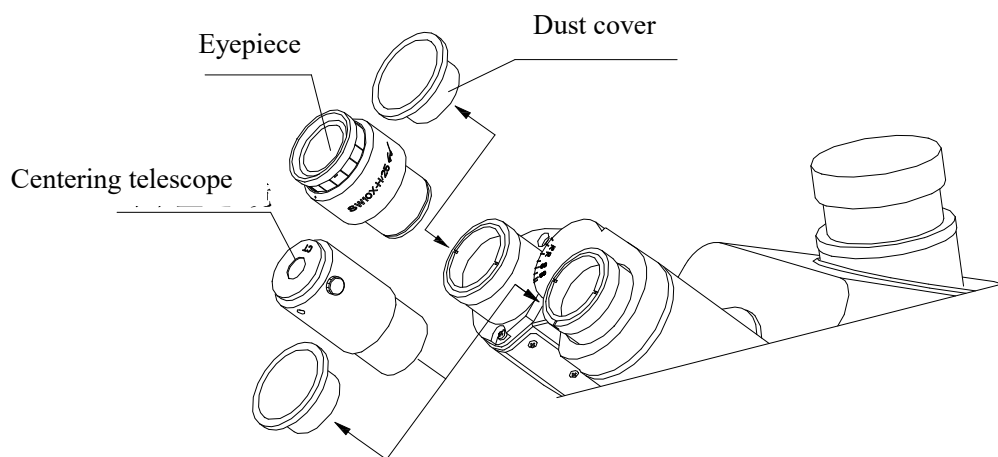
Pic.3

2. Eyepiece and centering telescope

①Take off the dust cover, insert the 2 eyepieces into the tube(the eyepiece should fully contact with the tube).

★②When observing with phase contrast, replace one eyepiece with the centering telescope, make the phase contrast ring focusing accurately.

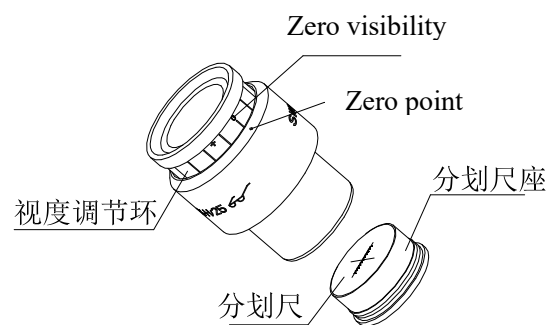
★when using centering telescope



Pic.4

3. Graduated ocular

The added line scale may cause a slightly shift of the image, rotate the visibility adjusting ring to focus the line scale of the eyepiece.



Only need to screw off the line scale base to

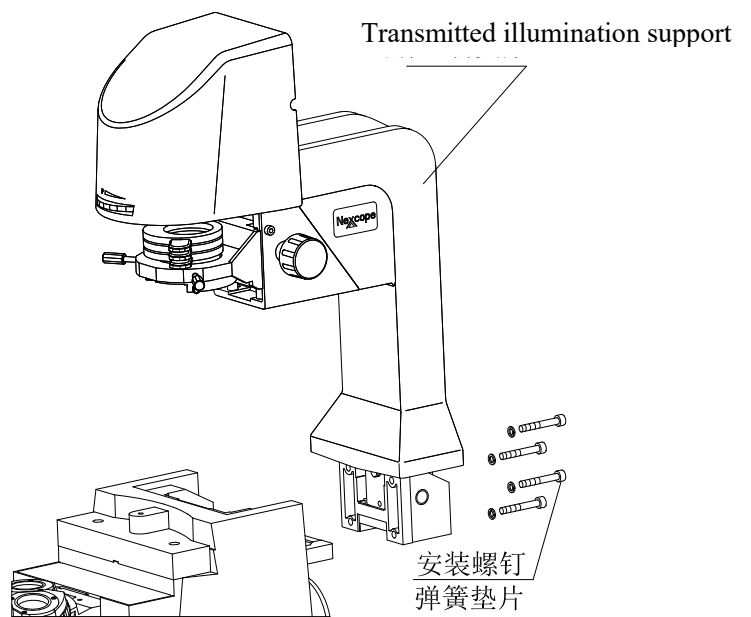
Change the line scale.

Pic.5

4. Transmitted illumination support

Put the support at the back of
mainframe and tighten it with
M5X35 bolt and spring washer.

The transmitted support does not
need any adjustment.



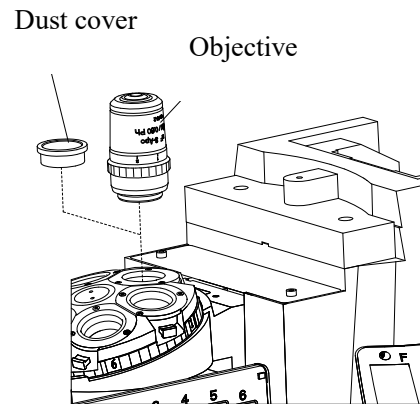
Pic.6

5. Objective

Screw off the dust cover on the converter, screw the objective into the trapped hole

The objectives should match the lettering on the converter by their magnification.

Screw the dust cover into other vacancies.



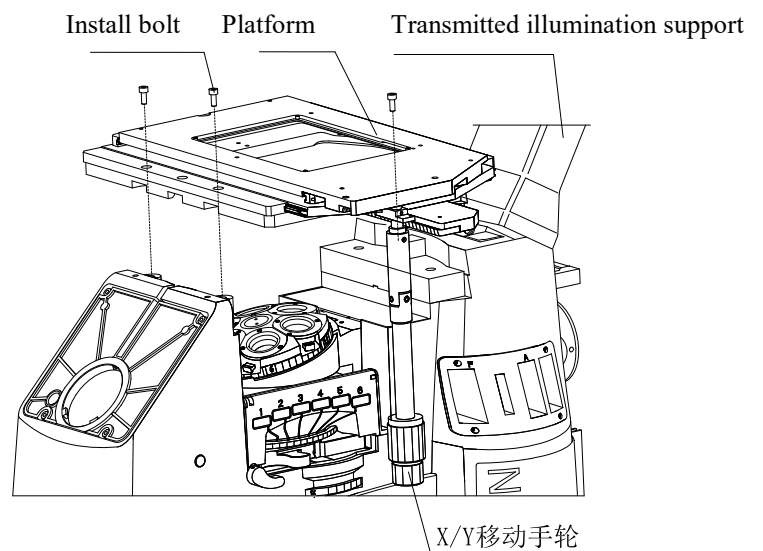
6. Sample platform

Assemble the platform 135X85R/L with the mainframe by three bolt M4X10

★The platform can be assembled at either right or left. (meanwhile the X/Y hand wheel can be at either right or left)

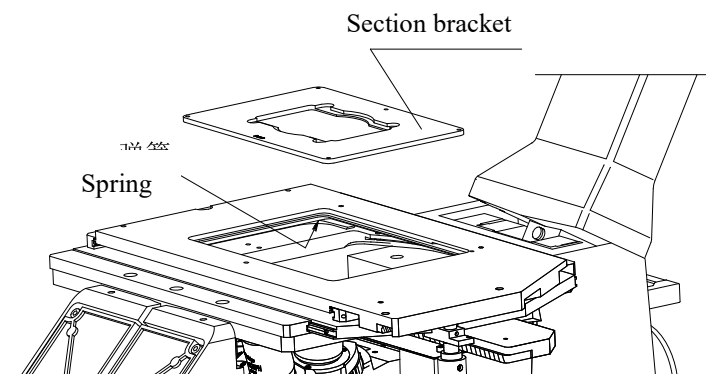
★The transmitted support can be tilt a bit to the back to assemble the platform.

Pic. 7



Pic. 8

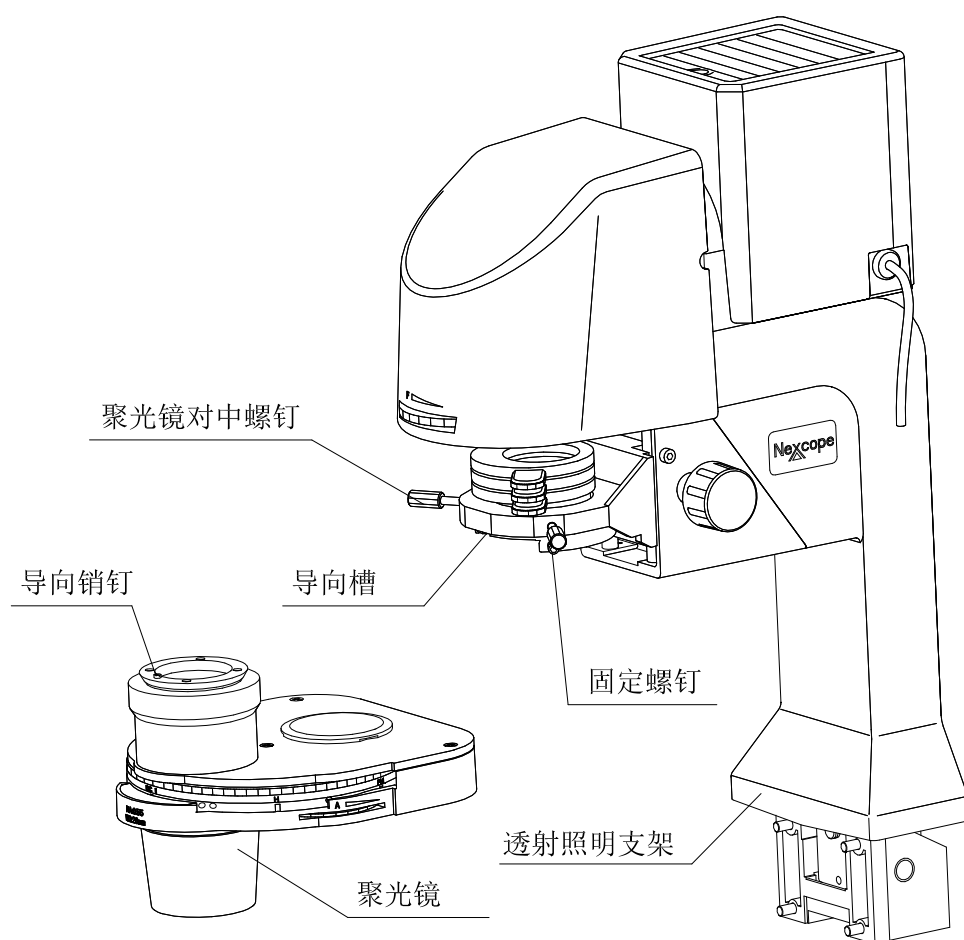
Put the section bracket close to the spring on the edge of the platform and press it to the platform levelly.



Pic. 9

7. Turntable condenser

Align the guiding dowel of the condenser to the guiding groove of the support and fix the condenser with the bolts after inserting it into the transmitted illumination support.

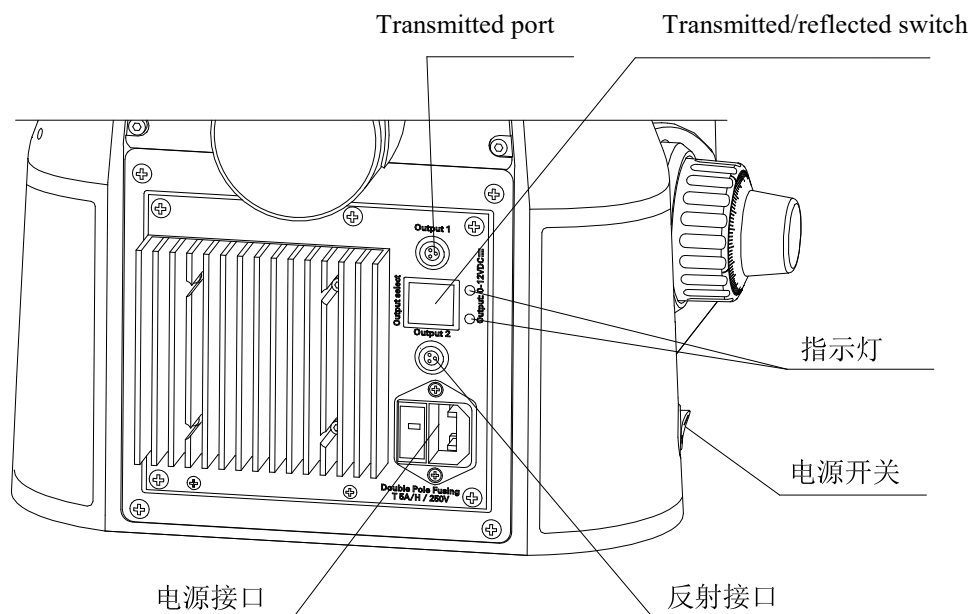


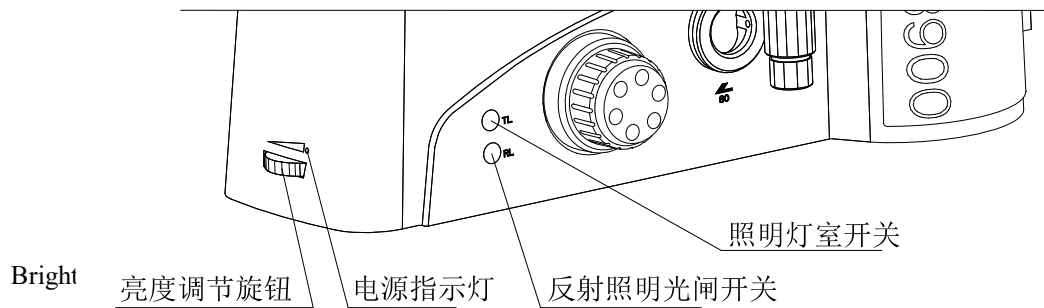
Pic. 10

8. Microscope power port

Please off the power before installing any parts and accessories.

- ★The TL lamp house switch can control the transmitted lamp house without turning off the power.
- ★The RL lamp house switch can control the reflected lamp house without turning off the power.

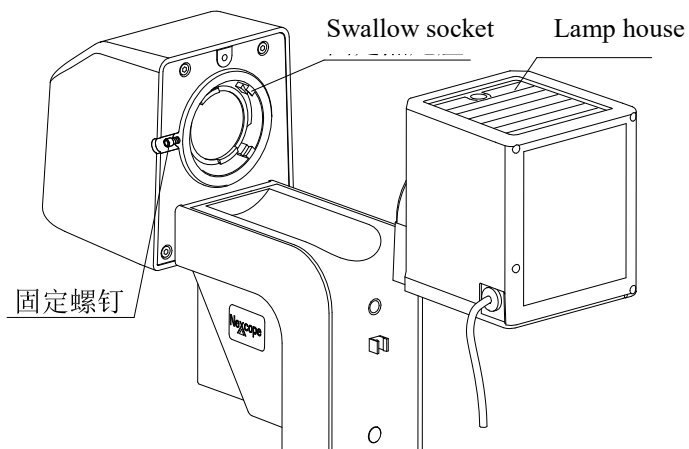




Pic.11

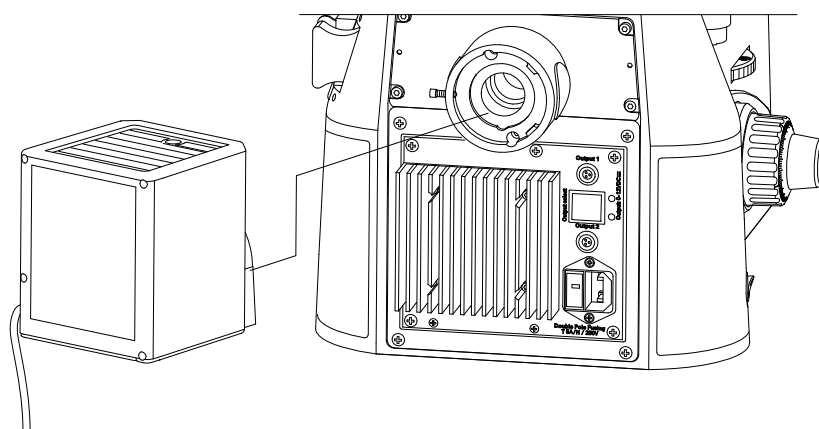
9. Illumination lamp house (halogen)

Insert the swallow tail of the lamp house to the socket, make the lamp house parallel to the stable table and then fixed it with bolts



Connect power wires by the port position shown in pic.11.

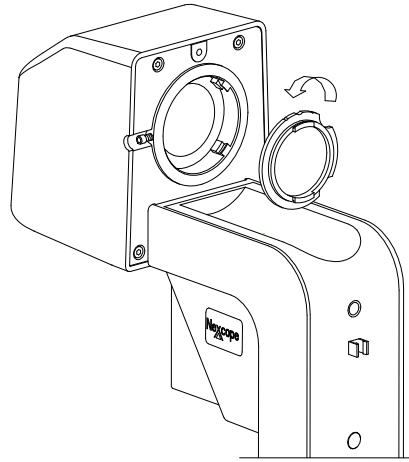
Check the connection and open the power supply, rotate the



Pic. 12

Assemble the diffuser

Locate the two round grooves of the diffuser to the two bulged on the swallow tail socket and screw the diffuser into the socket groove. Screw it reversely when taking the diffuser out.



Pic.13

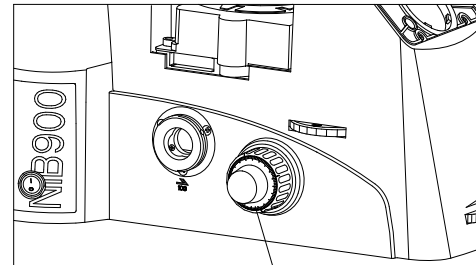
IV Operating and adjusting

1. Coarse and fine focusing hand wheel

move range: 10mm

coarse focusing hand wheel: 2mm/cycle

fine focusing hand wheel: 0.2mm/cycle



微调焦手轮 (刻度)

:l(scale)

★Focusing hand wheel is set at both side

Of the mainframe

The left hand wheel has scales

The right hand wheel has no scales

Pic.14

2. Side port converter/light path converter—observe from left, right port and ocular

The side port converter has three instruction of different splitting ratio.

100%vis: 0%doc



100%vis: 0%doc

20%vis:80%doc right



20%vis: 80%doc right

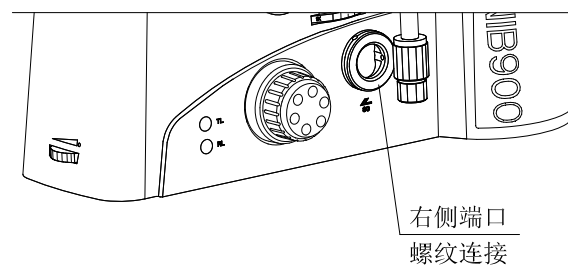
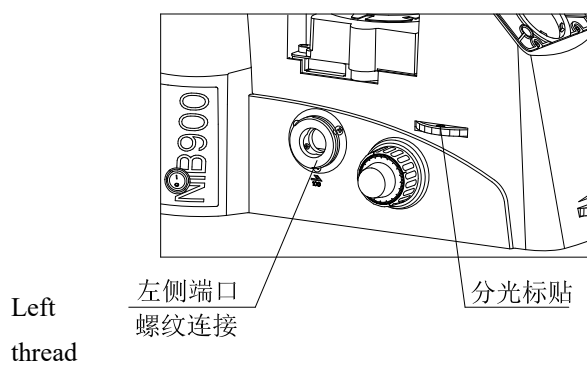
0%vis: 100%doc left



0%vis: 100%doc left

★: vis---observe by ocular

doc---phonic



Pic. 15

3. Turntable condenser

(transmitted light)

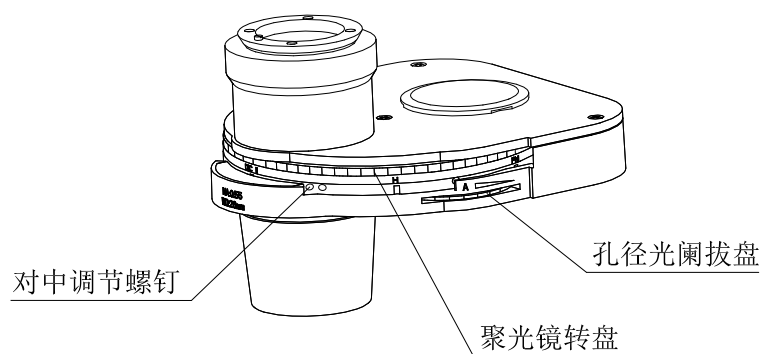
NA:0.55

WD: 26mm

Condenser turntable/6 positions

Bright field: H

Phase contrast: PH1、PH2、PH3



plate

Pic. 16

Adjust the aperture diaphragm: rotate the diaphragm plate

6 position adjust: rotate the condenser tunable, if you turned the bright field/H into the light path, make the mark “H” face you.

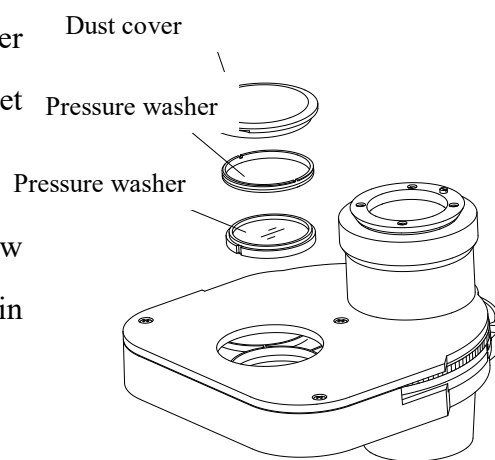
Phase contrast ring centering bolt: use 1.5mm hexagon screwdriver to adjust the phase contrast ring to match the objective.

Replacing DIC prism

Take out the condenser and put it on the plate form before replacing the DIC prism

Take out the dust cover, screw out the pressure washer with matched tools, and turn over the condenser to let the DIC prism slip off.

Put the new DIC prism to the groove of condenser, screw the pressure washer in and cover the dust cover, shown in pic.17



★attention the direction of the DIC prism and clip it into condenser carefully to protect the prism surfaces.

★make sure the scale ring in the tunable is right.

Pic. 17

4. Transmitted light field diaphragm

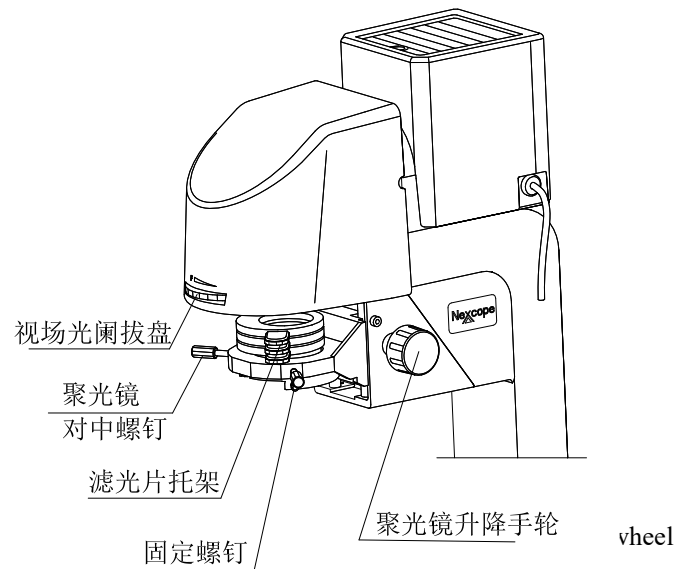
When using transmitted illumination, screw the tunable to adjust the field diaphragm.

Screw the condenser lift hand wheel to lift the condenser and set the observe height.

The condenser is fixed by fixing bolts.

Screw the 2 condenser centering bolts to move the condenser to the center of the light path.

The filter bracket can hold different filters.

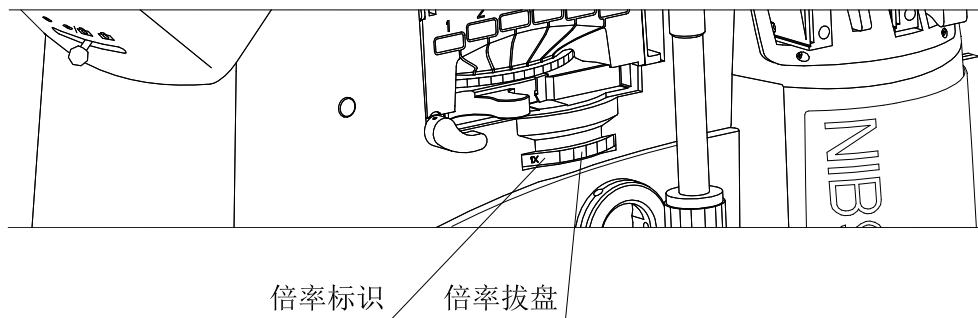


Pic. 18

5. Middle magnification converter

The middle magnification mark: 1X/1.5X

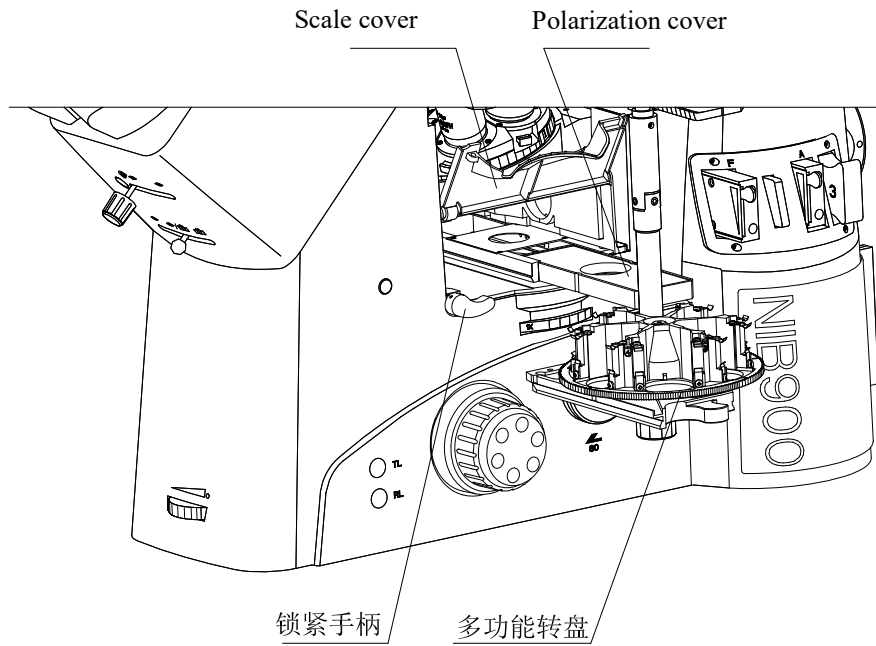
You can directly convert the middle magnification the change the observe magnification.



Pic. 19

6. Multi-function modules

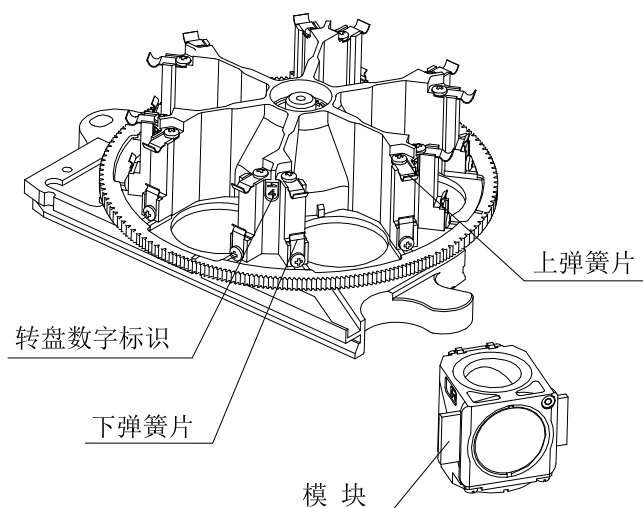
6 modules optional .Turn over the scale cover plate, turn down the locking handle, you can insert and extract the turntable.



Pic. 20

Install the multifunction module

Make the module sides along the lower-spring to insert it into turntable and press the module tightly by the upper-spring.

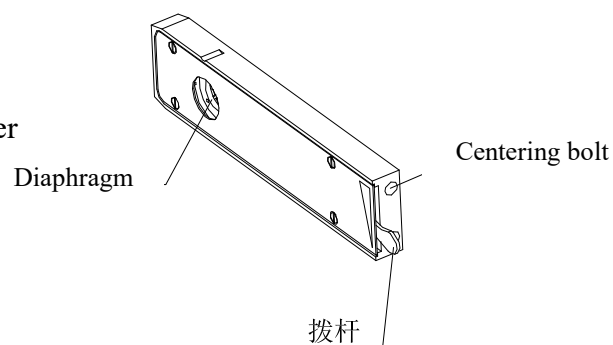


★ Notice that the module mark should match the number mark on the turntable.

Pic. 21

7. Aperture/field diaphragm of reflected light

Adjust the diaphragm by move the lifting lever



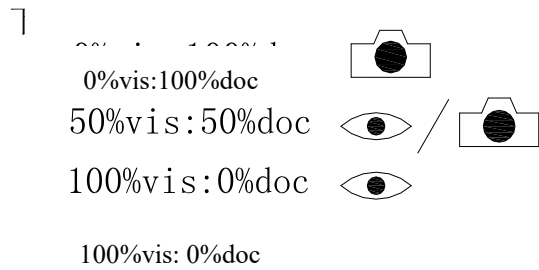
Set the diaphragm center to the optical path center by adjust two centering bolt using 3mm hexagon screwdriver.

Pic.22

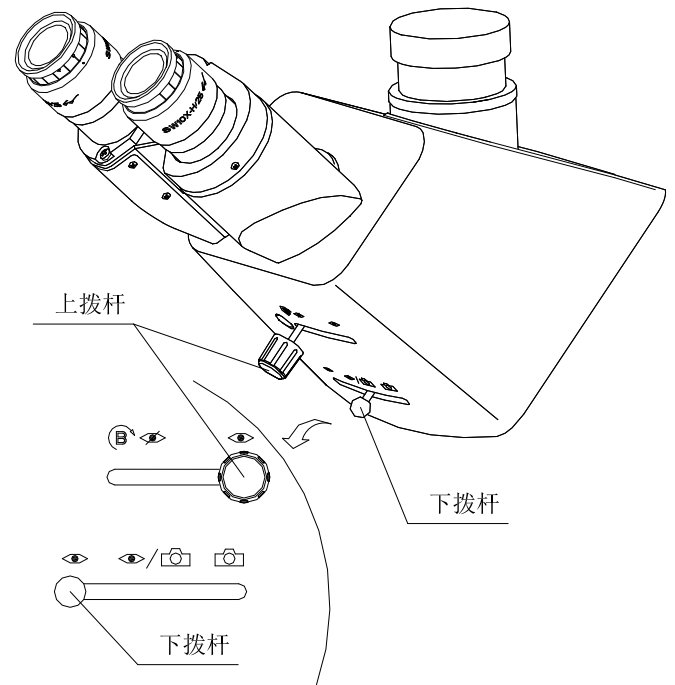
8. Trinocular tube

Trinocular tube:

45°/25 trinocular tube equipped with vis/doc slip prism, Bertrand lens and manual vis switch.



Upper lift level-a lift block to focus the Bertrand lens



Bertrand lens

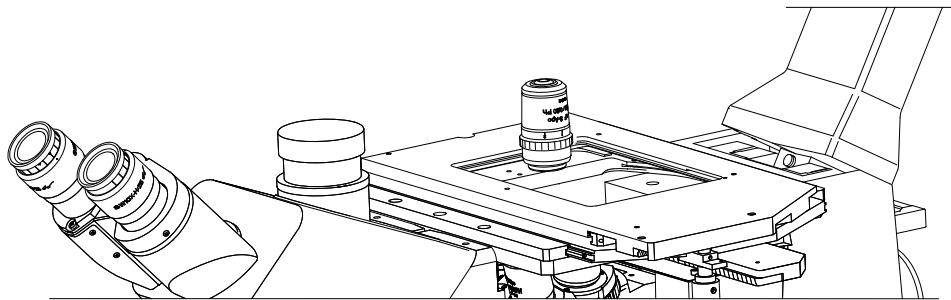
V Basic obs

Cautions in observation

1. Objective

- ① When rotating the converter to change objectives, a sound of click can be heard if the objective is right at the center of the light path.
- ② when operating, firstly search and focus the sample by a low magnification objective(4X or 10X) and then change to a high magnification objective to observe according to your needs.
- ③ The objectives can also be changed by install through the aperture in the platform.

Notice that the magnification should match the scale on the converter, in normal cases when you rotate the converter clockwise, the magnification will get higher.

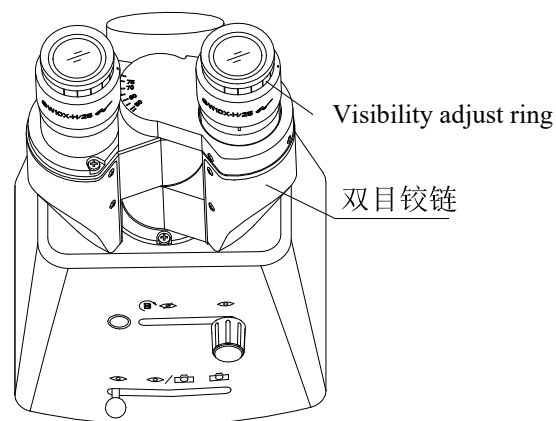


Pic. 24

2. Trinocular tube

① Visibility adjustment

Observe one eyepiece by one eye and rotate the coarse focusing hand wheel to focus on sample, then observe another eyepiece by another eye. If the image is not clear, use the visibility adjust ring to it clear by both eyes.



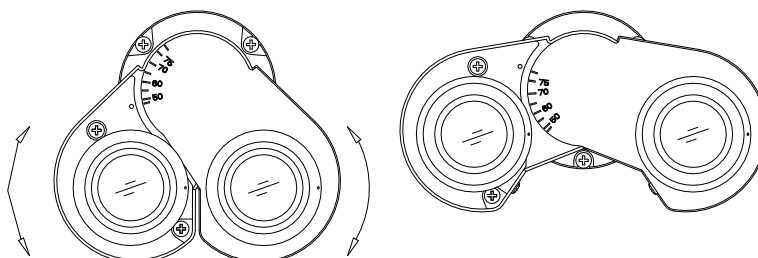
★ There are ± 5 diopters on the visibility adjust ring of the eyepiece, the value which align at the dots on eyepiece holder is the visibility of eyes.

Pic. 25

② Pupil distance adjustment

Rotate the binocular hinge to adjust the pupil distance and unity the field of two eyes, also adjust the height of exit pupil.

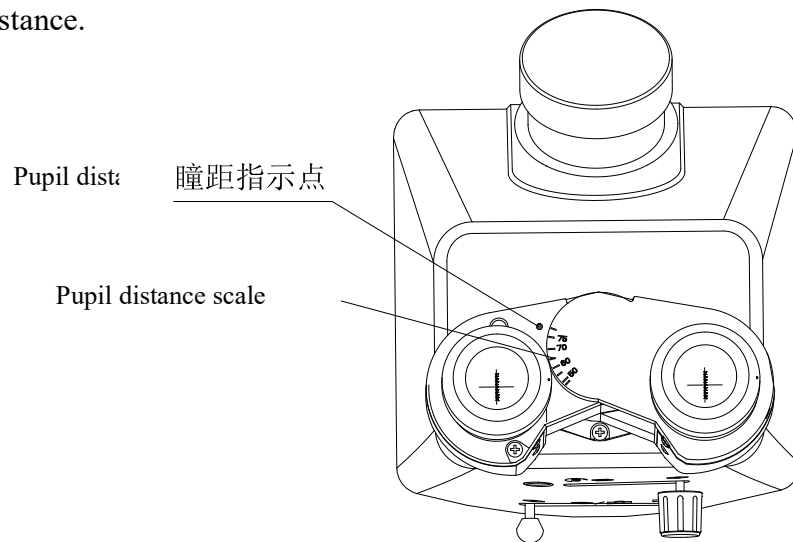
o



Pic. 26

Range of pupil distance: 55~75mm

The scale on the pupil distance board corresponded with the dot “·” is the value of pupil distance.



Pic.27

Transmitted illumination

1. Bright field observe

Trinocular tube-----upper lift level  , lower lift level 

Condenser-----H/bright field

Middle magnification converter-----1X

Multi-function modules ----transmitted module(number3)



2. Phase contrast observe

Trinocular tube----- upper lift level  , lower lift level 

Condenser-----PH1/PH2/PH3

Middle magnification converter-----1X

Multi-function modules ----transmitted module(number3)



① The magnification of phase contrast objective should match the condenser phase contrast mark. PH1/10X-20、 PH2/40X、 PH3/60X

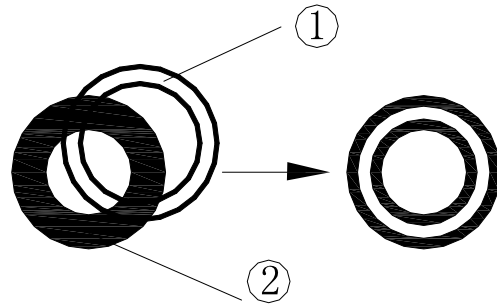
② Centering phase contrast ring shown in pic.28.

If the phase contrast ring is not centered, use 1.5mm hexagon screwdriver to adjust by following steps:

- a. Put a sample on the platform and focus it.
- b. Take out the eyepiece and insert the centering telescope into the eyepiece tube.
- c. Make sure the matched phase contrast ring 2(in the objective) and phase contrast ring 1(in the condenser) have shifted in the light path.
- d. Observe through centering telescope, adjusting the phase contrast ring by 1.5mm hexagon screwdriver until the 2 centers overlaps.
- f. The above methods apply to objectives of different magnification.

- ★ If the phase contrast ring is not centered properly, the best effect can't be get.
- ★ The phase contrast ring may shifted after remove the sample or replace it with a thicker sample, if this occurs, repeat the above steps until the 2 centers overlap.

- ★ If the glass slide or vessel is not flat, for a bigger contrast, repeat the above steps to adjust the 2 centers overlap.



3. Differential Interference Contrast(DIC) observe

Pic.28

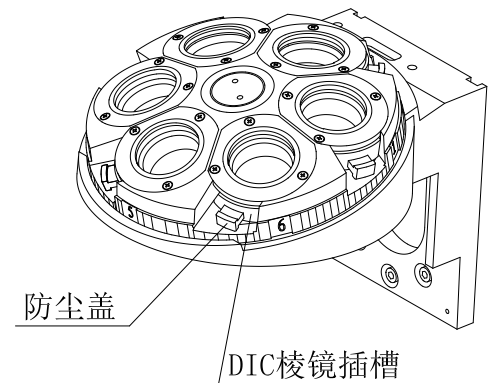
Trinocular tube----- upper lift level  , lower lift level 

Condenser-----DIC、 DIC II

Middle magnification converter-----1X

Multi-function modules ----transmitted module(number3)

Side port converter-----



The condenser DIC mark should match the DIC prism in the socket of objective converter.

Reflected illumination

1. Bright field observe

Trinocular tube----- upper lift level  , lower lift level 

Middle magnification converter-----1X

Multi-function module ----bright field module (number1)



2. Dark field observe

Trinocular tube----- upper lift level  , lower lift level 

Middle magnification converter-----1X

Multi-function module ----dark field module (number2)



3. Reflected polarization and cone light observation

Trinocular tube-----upper lift level  , lower lift level 

Middle magnification converter-----1X

Multi-function module-----polarization light module (number4/single polarized,



5/polarized, 6/circular polarization light)

Side port converter-----

4. Vertical fluorescence

Trinocular tube-----upper lift level  , lower lift level 

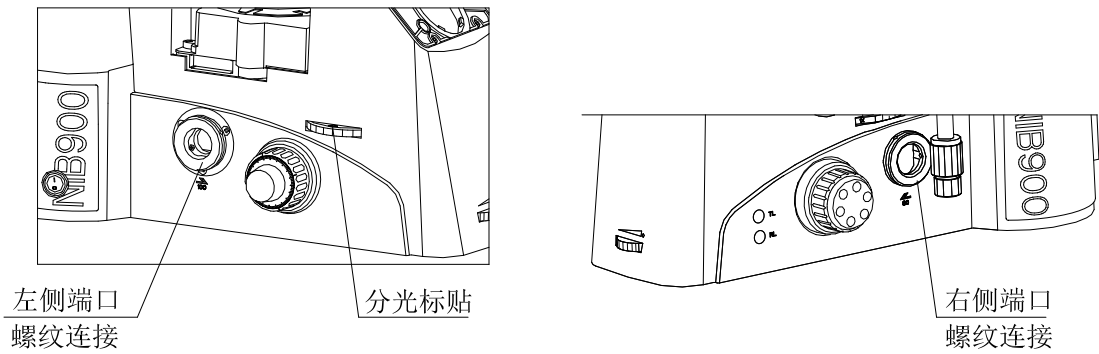
Middle magnification converter-----1X

Multi-function module----- fluorescence module (B、G、U、V)

Side port converter----- 

VI Microscopy imaging

1. Side port imaging



Pic.30

20%vis:80%doc right



0%vis:100%doc left

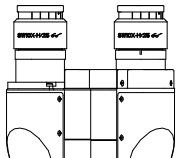
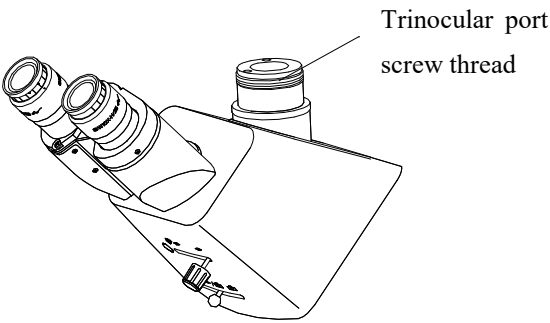


0%vis:100%doc left

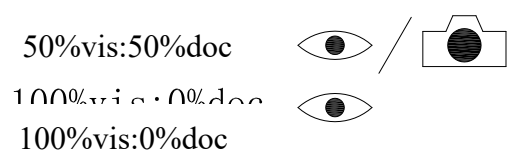
2. Trinocular tube imaging

upper lift level:

100%vis



lower lift level



Upper lift level

Lower lift level

Pic. 31

VII Technical specification

1. Main technical specification

Optical system	Infinite system
Observe tube	Hinge binocular tube, 45° tilt
Eyepiece	10X wide field eyepiece with line field ofΦ25mm
Objective converter	Six-hole converter
Objective	Infinite plan phase contrast: 10X、20X、40X、60X
Focusing	Coarse and fine coaxial focus Coarse focusing 2mm/cycle Fine focusing 0.2mm/cycle Stroke(from the plat focal point):up 7mm, down 2mm
Platform	Range of move: 135(length)X 80(wide)mm

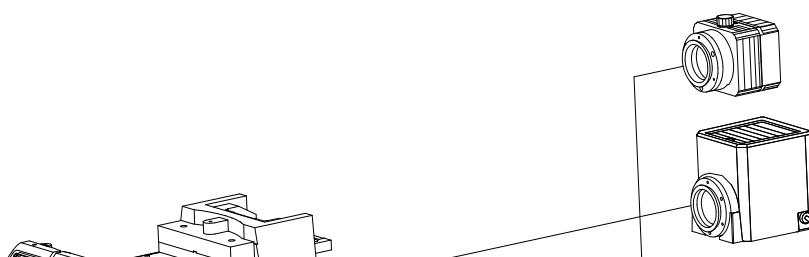
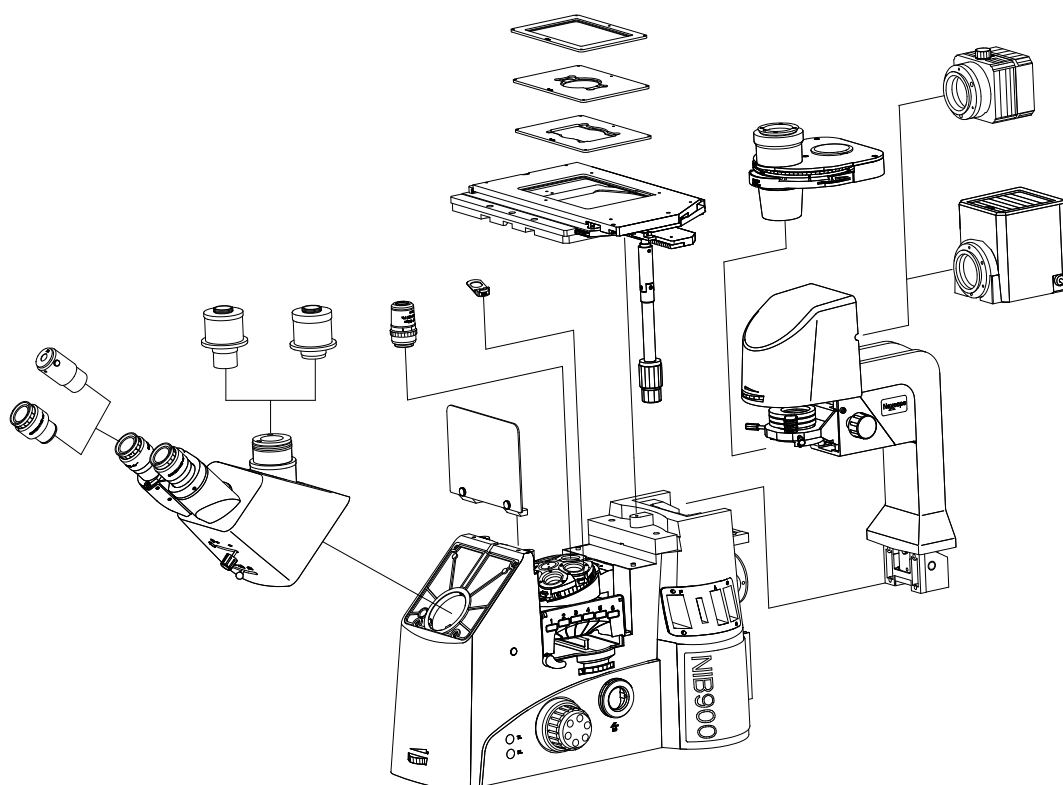
Illumination	12V 100W halogen tungsten lamp with center preset and brightness adjustable continently
Condenser	Working distance LD26mm NA0.55
Operating environment	● Used indoor ● Max altitude: 2000m ● Environment temperature: 5℃~40℃(41°F ~109°F) ● Max relative humidity: 80% at temperature of 31℃(88°F) Decreased linear with temperature 70% at temperature of 34℃(93°F) 60% at temperature of 37℃(99°F) 50% at temperature of 40℃(104°F) ● Pollution level: level 2 ● Power supply: ~220V ±10% 50/60HZ ● Consumed power: 100W ● Fuse: T5A/250V Φ5X20mm ● Air pressure: 80kPa~106kPa ● Overvoltage category: category II

2. Objective parameters

Class	Magnification	Number aperture (N.A)	Working distance (mm)	Conjugate distance (mm)	Parfocal distance (mm)	Glass Slide thickness

						(mm)
Infinite plan apochromatism objective	10X	0.30	7.4	∞	60	1.2
	20X	0.45	7.5-8.8			0-2
	40X	0.60	3-4.4			0-2
	60X	0.70	1.8-2.6			0.1-1.3

VIII Configuration diagram of NIB900 inverted biological microscope



IX Trouble shooting

In particular cases, the performance of this device may be affected reversible by some non-deficit factors. If trouble occurs, take the proper solution listed by the following chart. If the trouble is still not solved, please contact the sales department of our company.

Problem	Cause	Solution
1.Optical part		
a. Although the illumination is on, the field of view is still dark.	Lamp holder pin has not connected to the illumination device	Connect them correctly

	The bulb burns	Exchange a new bulb
	Brightness adjusted too low	Adjust the brightness properly
	Too many filters used	Minimize the filters according to actual needs
	The bulb is not indicate	Use 12V 100W halogen bulb
b. The edge of the field of view has shadow or not evenly illuminated	The objective converter is not in the correct position	Make sure the converter is in the correct position
	Filter stops in middle way	Push it completely
	Phase contrast plate is not in the correct position	Push the phase contrast plate to the located position
c. See dusts or pollution in the field of view	There are dust or pollution on the sample	Exchange a clean sample
	There are dust or pollution on the eyepiece	Wipe the eyepiece
d. There is ghost image	Aperture diaphragm is too small	Increase the aperture diaphragm
e. Resolution troubles ● The image is not obvious; ● The contrast is not good; ● The detail is not clear; ● No phase contrast effect gained	The objective converter is not in the correct position	Make sure the converter is in the correct position
	Aperture diaphragm is too small or too big in bright field observe	Adjust the aperture properly
	Lenses(condenser, objective, eyepiece or culture dish) is soiled	Make them fully cleaned
	The thickness of culture dish bottom is over 1.2mm in phase contrast observation	Use a culture dish with the thickness of bottom less than 1.2mm
	The bright field objective is used	Use the phase contrast objective
	The condenser ring is not match the objective ring	Adjust the condenser ring to match the objective ring
	The light ring is not centered with phase contrast	Adjust the centering bolts
	The objective is not compatible with the phase contrast observe	Use a objective compatible with the phase contrast observe
	When observing the edge of culture dish, the phase contrast	Move the culture dish to get the phase contrast

	ring deviate the light ring	effect
f. The image blurs at one side	The objective converter is not in the correct position	Make sure the converter is in the correct position
	The sample is not correctly positioned on the platform	Positioned the sample correctly
	The optical performance(such as the profile) of the culture dish bottom is poor	Use a well profiled culture dish

2. Electrical part

a. Bulb didn't shine	No power supply	Check and connect the power wire
	Bulb didn't installed correctly	Install the bulb correctly
	Bulb burns out	Exchange the bulb
b. Bulb burns out frequently	Non-indicate bulbs used	Use indicate bulbs
c. Brightness is not enough	Non-indicate bulbs used	Use indicate bulbs
	The brightness adjust knob is not used correctly	Use it correctly
d. The light twinkles	Bulb is nearly burned out	Exchange the bulb
	Power wire is badly connected	Connect the power wires correctly

3. Observe tube

The field of one eye is not coincide with the field of another eye	Pupil distance is wrong	Adjust the pupil distance
	Diopter is not correctly adjusted	Adjust the diopter
	Have not adapt the microscope observation yet	When observing from the eyepiece, observe the whole field of view before concentrate on the sample, it is benefit to look up or faraway before observe.

4. Microscopy imaging

a. Image defocused	Focusing incorrectly	Adjust the focal length to make the double cross line and sample visible clearly.
b. Edge of image blurred	The using achromatic objective can't focus the edge	Blur is inevitable
c. The image of window or light appeared	The outside beam entered the eyepiece or viewfinder is reflected	Cover the objective and viewfinder of the illumination system

X Maintenance

1. Use gauze to swipe glass components slightly. If you want to remove the fingerprints and oil stains, use thimbleful alcohol and diethyl ether mixed liquor (3:7) or dimethylbenzene to wipe.

★Diethyl ether and alcohol are both extremely flammable, DO NOT get them near to open flames or any potential electro sparks such as the switch of electrical device. Use these chemical products in well ventilated rooms as much as possible.

2. Do not use organic solvent to wipe any non-optical components. If you want to clean these components, use a hairless and soft cloth to dip a little of neutral cleaner to wipe.

3. If the microscope is wetted by liquid when operating, cut off the power supply immediately and wipe the liquid.

4. Do not separate any parts of the microscope otherwise the function and performance of the microscope may be affected.

5. The hole on the objective converter must be covered with dust cover if it is not occupied with objective in case of dusts or culture solution enter the inside of the device.

6. The microscope should cover with dustproof shield when it is unused. Wait until the lamp house fully cooled before covering the dustproof shield.

7.The check and replacement of components of this product should be executed by our company or the indicated agency which also provide the accessories.◦

[illegible]