MICROSCOPE

MODEL: XSP-36 XSP-36TV

MICROSCOPE

MODEL: XSP-36　XSP-36TV





INSTRUCTIONS

Thank you very much for choosing this product. Please read all of the instructions before using it. The information will help you achieve the best possible results.

SAFETY TIPS

1. This microscope only uses for micro observation. It can't be for other use, or the instrument will be damaged.
2. Apart from the detachable parts mentioned in this manual, it is strictly prohibited to disassemble any other parts. Otherwise, it may reduce the instrument's capability and can result in electric shock, injured, and damage to instruments. If you have any problems, please contact the nearest agent.
3. The input voltage is indicated on the plate behind the microscope. Make sure the input voltage is consistent with the output voltage of the charging adapter used. If not, do not use the microscope and contact the nearest agent. If using the wrong input voltage, it will cause electric appliance damage, which will damage the microscope.
4. Using improper light source accessories may lead to instrument damage or instruments fire disaster.
5. To prevent electric shock or fire, the power supply must be turned off before installing the microscope, replacing the light source accessories, and plugging or unplugging the power supply switch. To turn off the power switch, just need to flip the switch to "O".
6. To prevent short circuits or other failures, do not place the microscope in a humid area.
* If water is spilled on the microscope, immediately turn off the power switch (flip the switch to "O"), unplug the power cord and wipe off the water with a dry cloth.
* When unidentified objects enter or drip into the microscope, please stop use and contact the nearest sales agent.

7. When moving the stage, the rack of the stage will extend out. Please be careful not to hurt your hands or other body parts with the rack when operating the microscope.
8. This microscope is a precision optical instrument, if used or kept improperly, it will cause damage to the instrument or adversely affect its accuracy. When choosing a place to use, please consider the following conditions. Otherwise, it may cause the function decline of the instrument or malfunction.
* Avoid placing the microscope in direct sunlight, under indoor vertical lighting, and other bright fields.
* The room temperature of the use environment and place is 0° C - 40° C, and the maximum relative humidity is 85%, do not place the microscope in high temperature and high humidity places. Otherwise, the lens will fog or mold, which will damage the microscope, and shorten its service life.
* Impurities and dust will reduce the optical performance of the microscope, which should be avoided.
* Strong electromagnetic noise will interfere with the output signal of the microscope, so avoid approaching instruments and equipment that emit electromagnetic waves.
* Place the microscope on a sturdy table that can support the weight of the instrument and level it.
9. This microscope is a precision optical instrument, so be careful when carrying it. Heavy impact and rough operation can cause damage to instruments. Vibrating the objective lens will reduce the imaging accuracy.
10. Do not rotate the left and right focusing hand-wheel in opposite directions at the same time. When the stage has reached the limited position of movement, please do not continue to rotate the coarse tuning hand-wheel. These operations will cause damage to the focusing mechanism.
11. When oil immersion observation, only a small amount of oil is needed. To prevent excess oil from polluting the stage and condenser, degrading the performance of the instruments. When replacing the objective lens or ending the observation, the oil should be cleaned in time to avoid dirtying other lenses. It will be difficult to wipe out after the oil is dried.

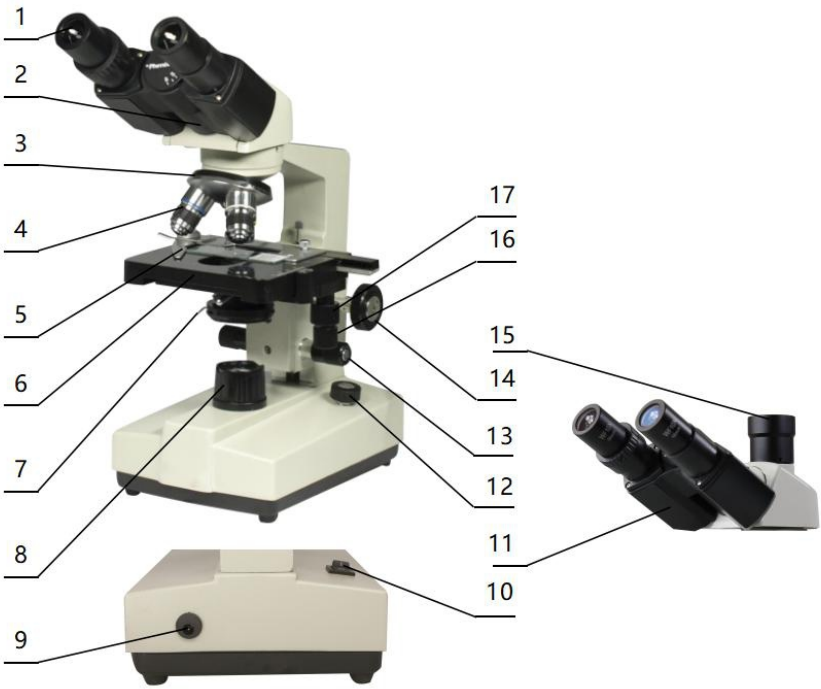
TECHNICAL PARAMETERS

1. Technical Specification

Main Parameter	Total Magnification	40X～2500X (XSP-36) 40X～5000X (XSP-36TV)		
	Mechanical length	160mm	Objective conjugate distance	185mm
Observation	Hinged binocular	Viewing ： 30 ° Inclined	Interpupillary distance:48～76mm	
	Hinged trinocular	Viewing ： 30 ° Inclined	Interpupillary distance:48～76mm	
Eyepiece	Wide field：WF10x/18mm		Eyepiece connector:23.2mm	
	Wide field：WF25x/8mm			
	2X Magnification Lens (Optional)			
Objective	Magnification		N.A.	
	4X Achromatic objective		0.1	
	10X Achromatic objective		0.25	
	40X(S) Achromatic objective		0.65	
	100X(S, O) Achromatic objective		1.25	
	Objective connector：WJ 4/5”×1/36”			
Condenser	Abbe Condenser	N.A: 1.25, Iris diaphragm, adjust knob		
Focusing system	Coarse and fine tuning are not coaxial Coarse range: 14mm, Fine range: 1.3mm			
Stage	Double layer mechanical stage Size: 115mm×125mm, Moving range: 72mm*30mm			
Illumination	High brightness LED cold light source	20mA/3.0V		
Light source	Input	AC100-240V		
	Output	DC 5V/ 1A		

PARTS LIST

2. Microscope Structure and Characteristics



1. Eyepiece: secondary magnifying of the specimen for observation
2. Binocular observer: observation of the specimen
3. Converter: select different objective lens (positioning with a sound)
4. Objective: primary magnifying of the specimen
5. Clips: fix the specimens
6. Stage: place the specimens
7. Condenser diaphragm lever: adjust the size of the condenser diaphragm hole
8. Collecting: gather light to illuminate the specimen
9. Power connector: connect external power
10. Power switch: the main power switch of the instrument

11. Trinocular observation: visual and video observation of specimens
12. Brightness adjustment rotary knob: adjust the brightness, so that the field of view is moderate
13. Fine adjustment hand-wheel: micro focusing
14. Coarse adjustment hand-wheel: focus the specimen
15. The third eyepiece: used for connecting extra accessories and CCD
16. X moving hand-wheel: adjust the lateral movement of the stage
17. Y moving hand-wheel: adjust the longitudinal movement of the stage

INSTALLATION AND USE

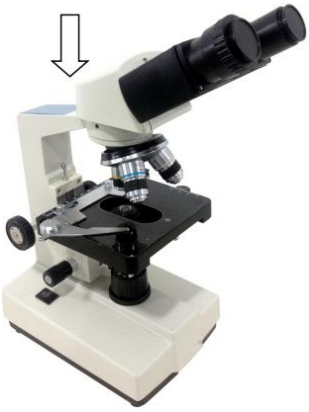
3.Instrument Installation

3.1 Place the microscope on a stable workbench. When moving the instrument, especially the optical parts, should avoid touching the lens' surface with your hands or objects with oil stains. Finger marks or oil stains on the surface of the lens will affect the imaging quality.

3.2 The platform surface is covered with a protective film during transportation. It should be torn off before using the microscope (see picture 1).



Picture 1



Picture 2

3.3 Place the observer gently in the mounting hole of the frame, gently press the upper part of the observation body with one hand and tighten the fixing screw on the head of the frame with the other hand. When installing, ensure that the observation head is in place and not loose (see picture 2).

3.4 After the microscope is installed, insert the DC plug to the power socket in the base and connect to the external power supply, under the situation of supply voltage is consistent with the rated voltage of the instrument.

3.5 Finally, insert the eyepiece into the microscope eyepiece tube.

OPERATION

4.Operation

4.1 Electric illumination

4.1.1 Turn on the power switch (flip the switch to "-") to make the bulb lighting.

4.1.2 Rotate the brightness adjustment knob to adjust the field of view brightness.

4.2 Install the specimen

4.2.1 Open the section holder gently with your finger, place the specimen in, cover the glass, release your finger and secure the section.

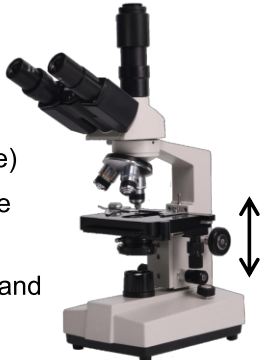
4.2.2 Adjust the platform moving hand-wheel and so that the observed area is directly under the objective lens, make sure it's easy to observation and adjustment.

4.3 Focus with 10X objective

* Rotate the objective converter to turn the 10X objective into the light path (the objective will be automatically snapped when rotate in the right place)

* Rotate the coarse adjustable hand wheel Move the stage to the highest position (see picture 3).

*Observe through the eyepiece, rotate the coarse hand wheel slowly to lower down the stage. Stop rotating when the image appears (see picture 3).



Picture 3

4.4 Rotate the fine hand wheel for precise focusing.

*When you want to observe with a high-magnification objective, first use the 10X or the 4X objective to focus, then replace the high-magnification objective and rotate the fine hand wheel for precise focusing.

*Confirm the direction of rotation when rotating the coarse hand wheel for focusing, can only lower the direction of the stage.

*When using coarse adjustable hand wheels to raise the stage, pay attention to the distance between the specimen surface and the lower-end

face of the objective.

*Since the working distance is farther for the 10X and 4X objectives, as long as it is used the standard thickness of the slide and cover glass (the standard thickness of the slide and cover glass is 1.2mm and 0.17mm, respectively), even if the stage is moved to the highest position, the objective lens will not touch the specimen.

4.5 Select Objective

Rotate objective Converter. Select the desired objective magnification (the objective can be automatically snapped when rotated in the right place)

4.6 Adjust the diaphragm adjusting knob makes the aperture diaphragm meet the observation requirements (see picture 4).

4.7 After the observation is finished, turn off the power switch.



Diaphragm adjusting knob

Picture 4

5 Installation and use of accessories (optional)

5.1 Installed external CCD camera accessories

ATTENTION:

For the parameters and usage of the CCD camera and digital viewer, please refer to the instruction manual contained in the CDROM supplied with the CCD camera or digital viewer.

Trinocular observation viewer:

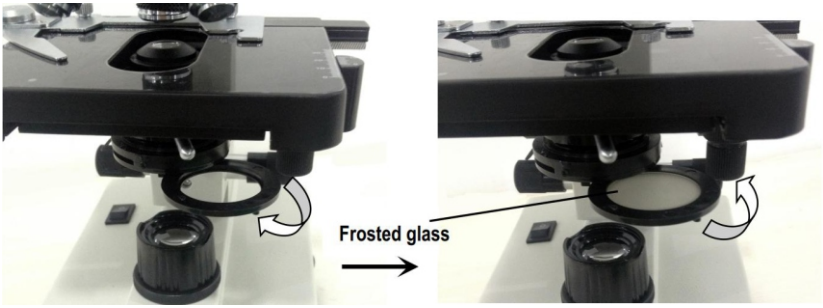
Take out the CCD camera, screw the lens end on the additional connector, insert the interface into the third eyepiece. Use the provided hex hook wrench to hold the screw fixing the additional connector tight, use the provided USB cable to connect the video output end of the CCD camera and the video input end of the computer. Plug in the microscope power plug, turn on the microscope and the computer switch. According to the focusing method described in the operation manual, adjust the image clearly adjust the adjustable viewing tube on the additional connector until a clear image appears on the computer screen, video observation is available (see picture 5).



Picture 5

5.2 The installation of frosted glass

When using the LED lighting, it is necessary to add frosted glass, first turn out the ground glass bracket, put the frosted glass smoothly into the bracket slot, and then turn the frosted glass bracket back to the original position (see picture 6).



Picture 6

ATTENTION

When you observe with 4x objective lens, it is necessary to install frosted glass, and it is also recommended try to use frosted glass to ensure uniform lighting when it is observed with 10X.

6. Maintenance

6.1 When the microscope is finished observing or suspended, cut off the power supply to avoid the electrical components in the instrument are still in the working state. When not used for a long time, the power plug should be removed from the power socket and all transmission wires should be properly kept.

6.2 Clean lens: Use a blow ball or a soft brush to wipe the dust off the lens. Heavy dirt and fingerprints can be gently wiped by lens paper or soft cloth dipped in a little alcohol and ether mixture (the mixture of the two is about 20 to 30% alcohol, 70 to 80% ether).

6.3 Clean instrument surface: Can be wiped with a clean soft cloth; Heavy dirt can be scrubbed with a neutral cleaner.

> ⚠ ATTENTION
>
> Do not use organic solvents (such as alcohol, ether and its diluent,etc.) to wipe, so as to avoid paint off the surface of the instrument.

6.4 Storage: if you do not use the microscope for a long time, please turn off the power supply of the instrument, fully cool the bulb, put the dust-proof cover on the microscope, and put it in the packing box. Store in a dry, ventilated, clean and acid-alkali vapor-free place to avoid mold.

7. Troubleshooting schedule

Common fault	Reasons	Solutions
The field of view is blurred or the brightness of the field of view is uneven, and the complete field of view cannot be seen.	The converter is not positioned correctly (the objective is not coaxial with the optical path)	Rotate the objective converter until accurate positioning (moving the objective into the light path correctly)
	The condenser is not centered	Adjust the center of the condenser
	Light bulb was installed incorrectly	Check that the bulb is inserted correctly
	Stains or dust on a condenser, objective, collector, eyepiece, or specimen	Wipe relevant parts
	The aperture is too small	Proper adjusting the diaphragm
The field of view is unclean	Lens surface is not clean	Proper cleaning
	The surface of the slide is not clean	Wipe clean
Lack of clarity Poor imaging	Specimen slide is not covered with glass	Attach cover glass
	Cover glass is too thick or too thin	Use a cover glass of standard thickness (0.17mm)
	The specimen is upside down	Flip the slide so that the cover slide is up
	Oil on the dry objective	Wipe clean

	Lens surface is not clean (objective/eyepiece/condenser/collector)	Wipe clean
	Aperture is too small	Proper adjusting the diaphragm
Unilateral darkening	Objective converter is not positioned correctly	Rotate the objective converter until accurate positioning
	Specimen is higher than the stage	Specimens should be firmly clamped to the platform clips
Unable to focus when using a high-power objective	Slide upside down	Flip the slide so that the cover slide is up
	Cover glass is too thick	Use specified cover glass (thickness 0.17mm)
	Objective not screwed tightly	Tightening objective
The left and right images do not coincide when viewed with the binocular tube	Unadjusted pupil distance	Adjust interpupillary distance
	Unadjusted diopter	Adjust the diopter
The bulb doesn't work	Power supply not connected	Check whether the power switch is turned on, and whether the charger voltage is consistent with the voltage marked on the instrument
	Power plug is in poor contact with the socket	Check whether the connection between the plug and the socket is firm and reliable

Light flicker, Luminance instability	Bulb poor contact	Plug the bulb firmly
	Socket poor contact	Check that the socket connection is reliable

WARRANTY POLICY

8.**Warranty policy**

8.1 Warranty period

From the date of purchase, the company provides one-year warranty service for the host

8.2 Non-warranty policy

The following circumstances (but not limited to the following circumstances) are not covered by warranty and need to pay maintenance fees:

*The warranty period has expired.

*Damage caused by force majeure factor.

*Damage caused by human damage or improper use of customs declaration.

*Any damage caused by failure to use, maintain and adjust according to the instructions unauthorized personnel to dismantle, repair, modification, misuse, abuse, liquid intake, accidents, use of non-original parts caused by failure or damage, malicious damage to the warranty card content, tear,tamper, etc.

*Other failure and damage caused by problems other than the design, manufacturing and quality of the product itself.

8.3 Warranty card

Item Production Number			
Fault phenomenon			
Buying date			
Contact			
Contact address			
Remark：This form is a return copy of the warranty card. Please cut out this form and send it to the seller or manufacturer whose address is on the "back cover".			

The Company reserves the right to make certain improvements to the design as it deems necessary. Therefore, the instructions given in this manual may not fully reflect the detailed features of each product type currently available.

AFTER-SALES SERVICE

1. If the product you received has other problems such as usage problems, please feel free to contact us and reply to online customer service within 24 hours to serve you.
2. Our products support 90 days for no reason to return or exchange.
3. Wish you a happy online shopping.

CORRET DISPOSAL



This product is subject to the provision of European Directive 2012/19/EC. The symbol showing a wheelie bin crossed through indicates that the product requires separate refuse collection in the European Union. This applies to the product and all accessories marked with this symbol. Products marked as such may not be discarded with normal domestic waste, but must be taken to a collection point for recycling electrical and electronic devices.

Made In China

Machine Translated by Google

MICROSCOPE

MODEL: XSP-36 XSP-36TV

Machine Translated by Google

Machine Translated by Google

MODEL: XSP-36 XSP-36TV





Machine Translated by Google

INSTRUCTIONS

Thank you very much for choosing this product. Please read all of the instructions before using it. The information will help you achieve the best possible results.

SAFETY TIPS

1. This microscope only uses for micro observation. It can't be for other use, or the instrument will be damaged.
2. Apart from the detachable parts mentioned in this manual, it is strictly prohibited to disassemble any other parts. Otherwise, it may reduce the instrument's capability and can result in electric shock, injured, and damage to instruments. If you have any problems, please contact the nearest agent.
3. The input voltage is indicated on the plate behind the microscope. Make sure the input voltage is consistent with the output voltage of the charging adapter used. If not, do not use the microscope and contact the nearest agent. If using the wrong input voltage, it will cause electric appliance damage, which will damage the microscope.
4. Using improper light source accessories may lead to instrument damage or instruments fire disaster.
5. To prevent electric shock or fire, the power supply must be turned off before installing the microscope, replacing the light source accessories, and plugging or unplugging the power supply switch. To turn off the power switch, just need to flip the switch to "O".
6. To prevent short circuits or other failures, do not place the microscope in a humid area.

* If water is spilled on the microscope, immediately turn off the power switch (flip the switch to "O"), unplug the power cord and wipe off the water with a dry cloth.
* When unidentified objects enter or drip into the microscope, please stop use and contact the nearest sales agent.

Machine Translated by Google

7. When moving the stage, the rack of the stage will extend out. Please be careful not to hurt your hands or other body parts with the rack when operating the microscope.
8. This microscope is a precision optical instrument, if used or kept improperly, it will cause damage to the instrument or adversely affect its accuracy. When choosing a place to use, please consider the following conditions. Otherwise, it may cause the function decline of the instrument or malfunction.
* Avoid placing the microscope in direct sunlight, under indoor vertical lighting, and other bright fields.
* The room temperature of the use environment and place is 0° C - 40° C, and the maximum relative humidity is 85%, do not place the microscope in high temperature and high humidity places. Otherwise, the lens will fog or mold, which will damage the microscope, and shorten its service life.
* Impurities and dust will reduce the optical performance of the microscope, which should be avoided.
* Strong electromagnetic noise will interfere with the output signal of the microscope, so avoid approaching instruments and equipment that emit electromagnetic waves.
* Place the microscope on a sturdy table that can support the weight of the instrument and level it.
9. This microscope is a precision optical instrument, so be careful when carrying it. Heavy impact and rough operation can cause damage to instruments. Vibrating the objective lens will reduce the imaging accuracy.
10. Do not rotate the left and right focusing hand-wheel in opposite directions at the same time. When the stage has reached the limited position of movement, please do not continue to rotate the coarse tuning hand-wheel. These operations will cause damage to the focusing mechanism.
11. When oil immersion observation, only a small amount of oil is needed. To prevent excess oil from polluting the stage and condenser, degrading the performance of the instruments. When replacing the objective lens or ending the observation, the oil should be cleaned in time to avoid dirtying other lenses. It will be difficult to wipe out after the oil is dried.

Machine Translated by Google

PARAMÈTRES TECHNIQUES

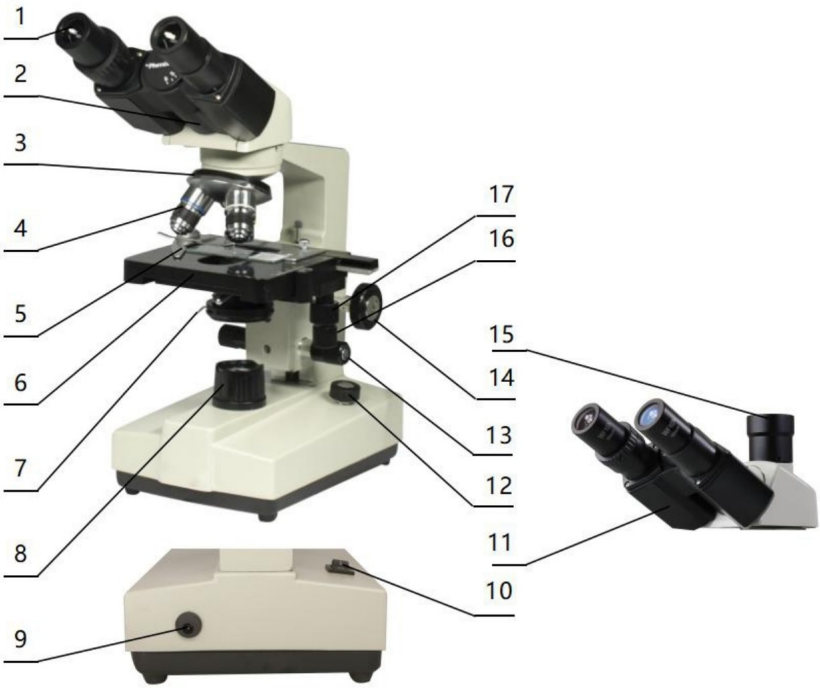
1. Spécifications techniques

Principal Paramètre	Total Grossissement	40X~2500X (XSP-36) 40X à 5000X (XSP-36TV)		
	Longueur mécanique	mm distance	Objectif 160 conjuguée	185 mm
Observation	Jumelles articulées	Visionnage , 30° Incliné		Distance interpupillaire : 48 à 76 mm
	Tronculaire articulé	Affichage : 30° Incliné		Distance interpupillaire : 48 à 76 mm
Oculaire	Champ large : WF1 Ox/1 Bmm			Connecteur d'oculaire : 23,2 mm
	Champ large : WF25x/8mm			
	Lentille de grossissement 2X (en option)			
Objectif	Grossissement			N / A
	Objectif achromatique 4X			0,1
	1 objectif achromatique OX			0,25
	Objectif achromatique 40X(S)			0,65
	1 OOX(S, 0) Objectif achromatique			1,25
	Connecteur d'objectif : WJ 4/5"x1/36"			
Condenseur	Abbé Condenseur	NA : 1,25, diaphragme à iris, bouton de réglage		
Système de mise au point	Le réglage grossier et fin ne sont pas coaxiaux Plage grossière : 14 mm, Plage fine : 1,3 mm			
Scène	Platine mécanique à double couche Taille : 115 mm x 125 mm, plage de déplacement : 72 mm x 30 mm			
Eclairage LED lumière froide	Haute luminosité source	20 mA/3,0 V		
Lumière source	Saisir	100-240 V CA		
	Sortir	CC 5 V/1 A		

Machine Translated by Google

PARTS LIST

2. Microscope Structure and Characteristics



1. Eyepiece: secondary magnifying of the specimen for observation
2. Binocular observer: observation of the specimen
3. Converter: select different objective lens (positioning with a sound)
4. Objective: primary magnifying of the specimen
5. Clips: fix the specimens
6. Stage: place the specimens
7. Condenser diaphragm lever: adjust the size of the condenser diaphragm hole
8. Collecting: gather light to illuminate the specimen
9. Power connector: connect external power
10. Power switch: the main power switch of the instrument

Machine Translated by Google

11. Trinocular observation: visual and video observation of specimens
12. Brightness adjustment rotary knob: adjust the brightness, so that the field of view is moderate
13. Fine adjustment hand-wheel: micro focusing
14. Coarse adjustment hand-wheel: focus the specimen
15. The third eyepiece: used for connecting extra accessories and CCD
16. X moving hand-wheel: adjust the lateral movement of the stage
17. Y moving hand-wheel: adjust the longitudinal movement of the stage

Machine Translated by Google

INSTALLATION AND USE

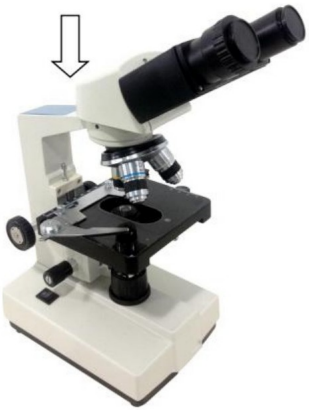
3.Instrument Installation

3.1 Place the microscope on a stable workbench. When moving the instrument, especially the optical parts, should avoid touching the lens' surface with your hands or objects with oil stains. Finger marks or oil stains on the surface of the lens will affect the imaging quality.

3.2 The platform surface is covered with a protective film during transportation. It should be torn off before using the microscope (see picture 1).



Picture 1



Picture 2

3.3 Place the observer gently in the mounting hole of the frame, gently press the upper part of the observation body with one hand and tighten the fixing screw on the head of the frame with the other hand. When installing, ensure that the observation head is in place and not loose (see picture 2).

3.4 After the microscope is installed, insert the DC plug to the power socket in the base and connect to the external power supply, under the situation of supply voltage is consistent with the rated voltage of the instrument.

3.5 Finally, insert the eyepiece into the microscope eyepiece tube.

Machine Translated by Google

OPERATION

4.Operation

4.1 Electric illumination

4.1.1 Turn on the power switch (flip the switch to "-") to make the bulb lighting.

4.1.2 Rotate the brightness adjustment knob to adjust the field of view brightness.

4.2 Install the specimen

4.2.1 Open the section holder gently with your finger, place the specimen in, cover the glass, release your finger and secure the section.

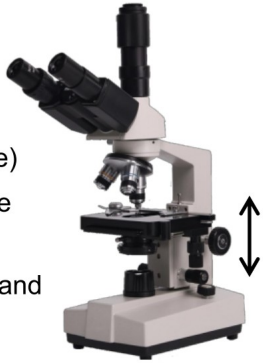
4.2.2 Adjust the platform moving hand-wheel and so that the observed area is directly under the objective lens, make sure it's easy to observation and adjustment.

4.3 Focus with 10X objective

* Rotate the objective converter to turn the 10X objective into the light path (the objective will be automatically snapped when rotate in the right place)

* Rotate the coarse adjustable hand wheel Move the stage to the highest position (see picture 3).

*Observe through the eyepiece, rotate the coarse hand wheel slowly to lower down the stage. Stop rotating when the image appears (see picture 3).



Picture 3

4.4 Rotate the fine hand wheel for precise focusing.

*When you want to observe with a high-magnification objective, first use the 10X or the 4X objective to focus, then replace the high-magnification objective and rotate the fine hand wheel for precise focusing.

*Confirm the direction of rotation when rotating the coarse hand wheel for focusing, can only lower the direction of the stage.

*When using coarse adjustable hand wheels to raise the stage, pay attention to the distance between the specimen surface and the lower-end

Machine Translated by Google

face of the objective.

*Since the working distance is farther for the 10X and 4X objectives, as long as it is used the standard thickness of the slide and cover glass (the standard thickness of the slide and cover glass is 1.2mm and 0.17mm, respectively), even if the stage is moved to the highest position, the objective lens will not touch the specimen.

4.5 Select Objective

Rotate objective Converter. Select the desired objective magnification (the objective can be automatically snapped when rotated in the right place)

4.6 Adjust the diaphragm adjusting knob makes the aperture diaphragm meet the observation requirements (see picture 4).

4.7 After the observation is finished, turn off the power switch.



Diaphragm adjusting knob

Picture 4

Machine Translated by Google

5 Installation and use of accessories (optional)

5.1 Installed external CCD camera accessories

ATTENTION:

For the parameters and usage of the CCD camera and digital viewer, please refer to the instruction manual contained in the CDROM supplied with the CCD camera or digital viewer.

Trinocular observation viewer:

Take out the CCD camera, screw the lens end on the additional connector, insert the interface into the third eyepiece. Use the provided hex hook wrench to hold the screw fixing the additional connector tight, use the provided USB cable to connect the video output end of the CCD camera and the video input end of the computer. Plug in the microscope power plug, turn on the microscope and the computer switch. According to the focusing method described in the operation manual, adjust the image clearly adjust the adjustable viewing tube on the additional connector until a clear image appears on the computer screen, video observation is available (see picture 5).

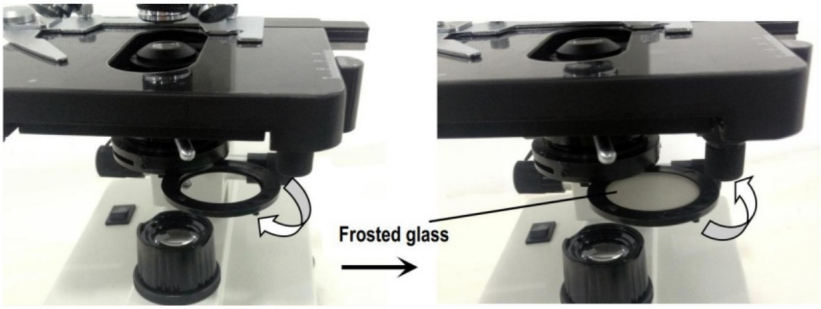


Picture 5

Machine Translated by Google

5.2 The installation of frosted glass

When using the LED lighting, it is necessary to add frosted glass, first turn out the ground glass bracket, put the frosted glass smoothly into the bracket slot, and then turn the frosted glass bracket back to the original position (see picture 6).



Picture 6

ATTENTION

When you observe with 4x objective lens, it is necessary to install frosted glass, and it is also recommended try to use frosted glass to ensure uniform lighting when it is observed with 10X.

Machine Translated by Google

6. Maintenance

6.1 When the microscope is finished observing or suspended, cut off the power supply to avoid the electrical components in the instrument are still in the working state. When not used for a long time, the power plug should be removed from the power socket and all transmission wires should be properly kept.

6.2 Clean lens: Use a blow ball or a soft brush to wipe the dust off the lens. Heavy dirt and fingerprints can be gently wiped by lens paper or soft cloth dipped in a little alcohol and ether mixture (the mixture of the two is about 20 to 30% alcohol, 70 to 80% ether).

6.3 Clean instrument surface: Can be wiped with a clean soft cloth; Heavy dirt can be scrubbed with a neutral cleaner.

> ⚠ ATTENTION
>
> Do not use organic solvents (such as alcohol, ether and its diluent,etc.) to wipe, so as to avoid paint off the surface of the instrument.

6.4 Storage: if you do not use the microscope for a long time, please turn off the power supply of the instrument, fully cool the bulb, put the dust-proof cover on the microscope, and put it in the packing box. Store in a dry, ventilated, clean and acid-alkali vapor-free place to avoid mold.

Machine Translated by Google

7. Troubleshooting schedule

Common fault	Reasons	Solutions
The field of view is blurred or the brightness of the field of view is uneven, and the complete field of view cannot be seen.	The converter is not positioned correctly (the objective is not coaxial with the optical path)	Rotate the objective converter until accurate positioning (moving the objective into the light path correctly)
	The condenser is not centered	Adjust the center of the condenser
	Light bulb was installed incorrectly	Check that the bulb is inserted correctly
	Stains or dust on a condenser, objective, collector, eyepiece, or specimen	Wipe relevant parts
	The aperture is too small	Proper adjusting the diaphragm
The field of view is unclean	Lens surface is not clean	Proper cleaning
	The surface of the slide is not clean	Wipe clean
Lack of clarity Poor imaging	Specimen slide is not covered with glass	Attach cover glass
	Cover glass is too thick or too thin	Use a cover glass of standard thickness (0.17mm)
	The specimen is upside down	Flip the slide so that the cover slide is up
	Oil on the dry objective	Wipe clean

Machine Translated by Google

	Lens surface is not clean (objective/eyepiece/condenser/collector)	Wipe clean
	Aperture is too small	Proper adjusting the diaphragm
Unilateral darkening	Objective converter is not positioned correctly	Rotate the objective converter until accurate positioning
	Specimen is higher than the stage	Specimens should be firmly clamped to the platform clips
Unable to focus when using a high-power objective	Slide upside down	Flip the slide so that the cover slide is up
	Cover glass is too thick	Use specified cover glass (thickness 0.17mm)
	Objective not screwed tightly	Tightening objective
The left and right images do not coincide when viewed with the binocular tube	Unadjusted pupil distance	Adjust interpupillary distance
	Unadjusted diopter	Adjust the diopter
The bulb doesn't work	Power supply not connected	Check whether the power switch is turned on, and whether the charger voltage is consistent with the voltage marked on the instrument
	Power plug is in poor contact with the socket	Check whether the connection between the plug and the socket is firm and reliable

Machine Translated by Google

Light flicker, Luminance instability	Bulb poor contact	Plug the bulb firmly
	Socket poor contact	Check that the socket connection is reliable

WARRANTY POLICY

8.**Warranty policy**

8.1 Warranty period

From the date of purchase, the company provides one-year warranty service for the host

8.2 Non-warranty policy

The following circumstances (but not limited to the following circumstances) are not covered by warranty and need to pay maintenance fees:

*The warranty period has expired.

*Damage caused by force majeure factor.

*Damage caused by human damage or improper use of customs declaration.

*Any damage caused by failure to use, maintain and adjust according to the instructions unauthorized personnel to dismantle, repair, modification, misuse, abuse, liquid intake, accidents, use of non-original parts caused by failure or damage, malicious damage to the warranty card content, tear,tamper, etc.

*Other failure and damage caused by problems other than the design, manufacturing and quality of the product itself.

8.3 Warranty card

Machine Translated by Google

Item Production Number			
Fault phenomenon			
Buying date			
Contact			
Contact address			
Remark：This form is a return copy of the warranty card. Please cut out this form and send it to the seller or manufacturer whose address is on the "back cover".			

The Company reserves the right to make certain improvements to the design as it deems necessary. Therefore, the instructions given in this manual may not fully reflect the detailed features of each product type currently available.

Machine Translated by Google

AFTER-SALES SERVICE

1. If the product you received has other problems such as usage problems, please feel free to contact us and reply to online customer service within 24 hours to serve you.
2. Our products support 90 days for no reason to return or exchange.
3. Wish you a happy online shopping.

CORRET DISPOSAL



This product is subject to the provision of European Directive 2012/19/EC. The symbol showing a wheelie bin crossed through indicates that the product requires separate refuse collection in the European Union. This applies to the product and all accessories marked with this symbol. Products marked as such may not be discarded with normal domestic waste, but must be taken to a collection point for recycling electrical and electronic devices.

Made In China

Machine Translated by Google

Machine Translated by Google

MICROSCOPE

MODEL: XSP-36 XSP-36TV

Machine Translated by Google

Machine Translated by Google

MODEL: XSP-36 XSP-36TV





Machine Translated by Google

INSTRUCTIONS

Thank you very much for choosing this product. Please read all of the instructions before using it. The information will help you achieve the best possible results.

SAFETY TIPS

1. This microscope only uses for micro observation. It can't be for other use, or the instrument will be damaged.
2. Apart from the detachable parts mentioned in this manual, it is strictly prohibited to disassemble any other parts. Otherwise, it may reduce the instrument's capability and can result in electric shock, injured, and damage to instruments. If you have any problems, please contact the nearest agent.
3. The input voltage is indicated on the plate behind the microscope. Make sure the input voltage is consistent with the output voltage of the charging adapter used. If not, do not use the microscope and contact the nearest agent. If using the wrong input voltage, it will cause electric appliance damage, which will damage the microscope.
4. Using improper light source accessories may lead to instrument damage or instruments fire disaster.
5. To prevent electric shock or fire, the power supply must be turned off before installing the microscope, replacing the light source accessories, and plugging or unplugging the power supply switch. To turn off the power switch, just need to flip the switch to "O".
6. To prevent short circuits or other failures, do not place the microscope in a humid area.

* If water is spilled on the microscope, immediately turn off the power switch (flip the switch to "O"), unplug the power cord and wipe off the water with a dry cloth.
* When unidentified objects enter or drip into the microscope, please stop use and contact the nearest sales agent.

Machine Translated by Google

7. When moving the stage, the rack of the stage will extend out. Please be careful not to hurt your hands or other body parts with the rack when operating the microscope.
8. This microscope is a precision optical instrument, if used or kept improperly, it will cause damage to the instrument or adversely affect its accuracy. When choosing a place to use, please consider the following conditions. Otherwise, it may cause the function decline of the instrument or malfunction.
* Avoid placing the microscope in direct sunlight, under indoor vertical lighting, and other bright fields.
* The room temperature of the use environment and place is 0° C - 40° C, and the maximum relative humidity is 85%, do not place the microscope in high temperature and high humidity places. Otherwise, the lens will fog or mold, which will damage the microscope, and shorten its service life.
* Impurities and dust will reduce the optical performance of the microscope, which should be avoided.
* Strong electromagnetic noise will interfere with the output signal of the microscope, so avoid approaching instruments and equipment that emit electromagnetic waves.
* Place the microscope on a sturdy table that can support the weight of the instrument and level it.
9. This microscope is a precision optical instrument, so be careful when carrying it. Heavy impact and rough operation can cause damage to instruments. Vibrating the objective lens will reduce the imaging accuracy.
10. Do not rotate the left and right focusing hand-wheel in opposite directions at the same time. When the stage has reached the limited position of movement, please do not continue to rotate the coarse tuning hand-wheel. These operations will cause damage to the focusing mechanism.
11. When oil immersion observation, only a small amount of oil is needed. To prevent excess oil from polluting the stage and condenser, degrading the performance of the instruments. When replacing the objective lens or ending the observation, the oil should be cleaned in time to avoid dirtying other lenses. It will be difficult to wipe out after the oil is dried.

Machine Translated by Google

TECHNISCHE PARAMETER

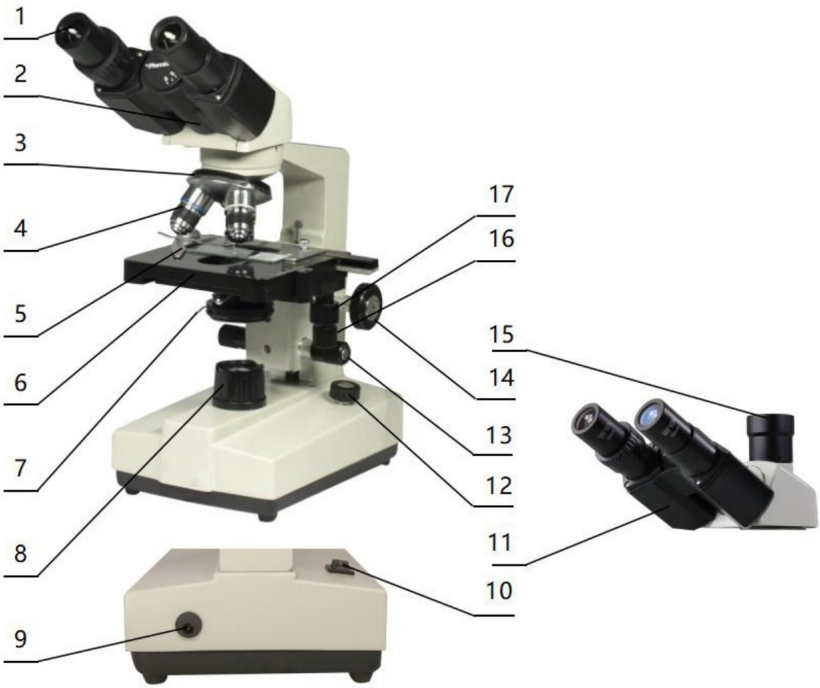
1. Technische Daten

Hauptsächlich Parameter	Gesamt Vergrößerung	40-fach bis 2500-fach (XSP-36) 40X bis 5000X (XSP-36TV)		
	Mechanische Länge	160mm konjugierter Abstand	Objektiv	185 mm
Beobachtung	Klappfernglas	Besichtigung , 30° Geneigt		Augenabstand: 48 ~ 76 mm
	Aufklappbares Trinokular	Sichtung : 30° Geneigt		Augenabstand: 48 ~ 76 mm
Okular	Weites Feld: WF1 Ox/1 Bmm			Okularanschluss: 23,2 mm
	Weitwinkel: WF25x/8mm			
	2-fache Vergrößerungslinse (optional)			
Objektiv	Vergrößerung			N / A
	4X Achromatisches Objektiv			0,1
	1 OX Achromatisches Objektiv			0,25
	40X(S) Achromatisches Objektiv			0,65
	1 OOX(S, 0) Achromatisches Objektiv			1,25
	Objektivanschluss: WJ 4/5"x1/36"			
Kondensator	Abbe Kondensator	NA: 1,25, Irisblende, Einstellknopf		
Fokussiersystem	Grob- und Feineinstellung sind nicht koaxial Grobeinstellung: 14 mm, Feineinstellung: 1,3 mm			
Bühne	Doppelschichtiger mechanischer Tisch Größe: 115 mm x 125 mm, Bewegungsbereich: 72 mm x 30 mm			
Beleuchtung LED Kaltlicht Quelle	Hohe Helligkeit	20 mA/3,0 V		
Licht Quelle	Eingang	Wechselstrom 100–240 V		
	Ausgabe	Gleichstrom 5 V/ 1 A		

Machine Translated by Google

PARTS LIST

2. Microscope Structure and Characteristics



1. Eyepiece: secondary magnifying of the specimen for observation
2. Binocular observer: observation of the specimen
3. Converter: select different objective lens (positioning with a sound)
4. Objective: primary magnifying of the specimen
5. Clips: fix the specimens
6. Stage: place the specimens
7. Condenser diaphragm lever: adjust the size of the condenser diaphragm hole
8. Collecting: gather light to illuminate the specimen
9. Power connector: connect external power
10. Power switch: the main power switch of the instrument

Machine Translated by Google

11. Trinocular observation: visual and video observation of specimens
12. Brightness adjustment rotary knob: adjust the brightness, so that the field of view is moderate
13. Fine adjustment hand-wheel: micro focusing
14. Coarse adjustment hand-wheel: focus the specimen
15. The third eyepiece: used for connecting extra accessories and CCD
16. X moving hand-wheel: adjust the lateral movement of the stage
17. Y moving hand-wheel: adjust the longitudinal movement of the stage

Machine Translated by Google

INSTALLATION AND USE

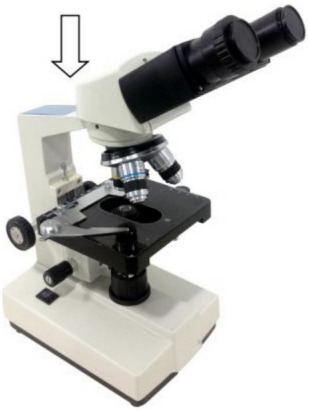
3.Instrument Installation

3.1 Place the microscope on a stable workbench. When moving the instrument, especially the optical parts, should avoid touching the lens' surface with your hands or objects with oil stains. Finger marks or oil stains on the surface of the lens will affect the imaging quality.

3.2 The platform surface is covered with a protective film during transportation. It should be torn off before using the microscope (see picture 1).



Picture 1



Picture 2

3.3 Place the observer gently in the mounting hole of the frame, gently press the upper part of the observation body with one hand and tighten the fixing screw on the head of the frame with the other hand. When installing, ensure that the observation head is in place and not loose (see picture 2).

3.4 After the microscope is installed, insert the DC plug to the power socket in the base and connect to the external power supply, under the situation of supply voltage is consistent with the rated voltage of the instrument.

3.5 Finally, insert the eyepiece into the microscope eyepiece tube.

Machine Translated by Google

OPERATION

4.Operation

4.1 Electric illumination

4.1.1 Turn on the power switch (flip the switch to "-") to make the bulb lighting.

4.1.2 Rotate the brightness adjustment knob to adjust the field of view brightness.

4.2 Install the specimen

4.2.1 Open the section holder gently with your finger, place the specimen in, cover the glass, release your finger and secure the section.

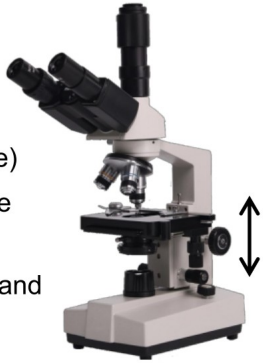
4.2.2 Adjust the platform moving hand-wheel and so that the observed area is directly under the objective lens, make sure it's easy to observation and adjustment.

4.3 Focus with 10X objective

* Rotate the objective converter to turn the 10X objective into the light path (the objective will be automatically snapped when rotate in the right place)

* Rotate the coarse adjustable hand wheel Move the stage to the highest position (see picture 3).

*Observe through the eyepiece, rotate the coarse hand wheel slowly to lower down the stage. Stop rotating when the image appears (see picture 3).



Picture 3

4.4 Rotate the fine hand wheel for precise focusing.

*When you want to observe with a high-magnification objective, first use the 10X or the 4X objective to focus, then replace the high-magnification objective and rotate the fine hand wheel for precise focusing.

*Confirm the direction of rotation when rotating the coarse hand wheel for focusing, can only lower the direction of the stage.

*When using coarse adjustable hand wheels to raise the stage, pay attention to the distance between the specimen surface and the lower-end

Machine Translated by Google

face of the objective.

*Since the working distance is farther for the 10X and 4X objectives, as long as it is used the standard thickness of the slide and cover glass (the standard thickness of the slide and cover glass is 1.2mm and 0.17mm, respectively), even if the stage is moved to the highest position, the objective lens will not touch the specimen.

4.5 Select Objective

Rotate objective Converter. Select the desired objective magnification (the objective can be automatically snapped when rotated in the right place)

4.6 Adjust the diaphragm adjusting knob makes the aperture diaphragm meet the observation requirements (see picture 4).

4.7 After the observation is finished, turn off the power switch.



Diaphragm adjusting knob

Picture 4

Machine Translated by Google

5 Installation and use of accessories (optional)

5.1 Installed external CCD camera accessories

ATTENTION:

For the parameters and usage of the CCD camera and digital viewer, please refer to the instruction manual contained in the CDROM supplied with the CCD camera or digital viewer.

Trinocular observation viewer:

Take out the CCD camera, screw the lens end on the additional connector, insert the interface into the third eyepiece. Use the provided hex hook wrench to hold the screw fixing the additional connector tight, use the provided USB cable to connect the video output end of the CCD camera and the video input end of the computer. Plug in the microscope power plug, turn on the microscope and the computer switch. According to the focusing method described in the operation manual, adjust the image clearly adjust the adjustable viewing tube on the additional connector until a clear image appears on the computer screen, video observation is available (see picture 5).

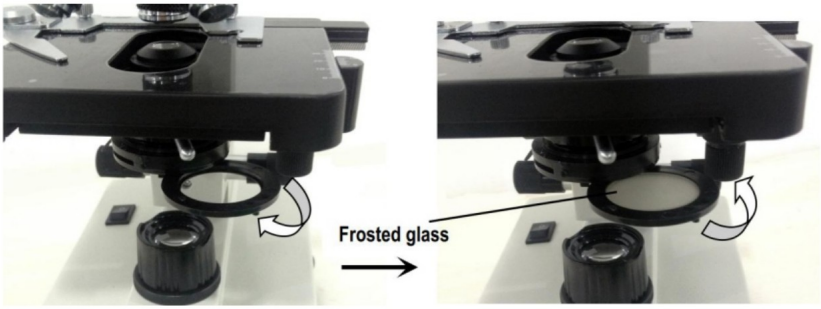


Picture 5

Machine Translated by Google

5.2 The installation of frosted glass

When using the LED lighting, it is necessary to add frosted glass, first turn out the ground glass bracket, put the frosted glass smoothly into the bracket slot, and then turn the frosted glass bracket back to the original position (see picture 6).



Picture 6

ATTENTION

When you observe with 4x objective lens, it is necessary to install frosted glass, and it is also recommended try to use frosted glass to ensure uniform lighting when it is observed with 10X.

Machine Translated by Google

6. Maintenance

6.1 When the microscope is finished observing or suspended, cut off the power supply to avoid the electrical components in the instrument are still in the working state. When not used for a long time, the power plug should be removed from the power socket and all transmission wires should be properly kept.

6.2 Clean lens: Use a blow ball or a soft brush to wipe the dust off the lens. Heavy dirt and fingerprints can be gently wiped by lens paper or soft cloth dipped in a little alcohol and ether mixture (the mixture of the two is about 20 to 30% alcohol, 70 to 80% ether).

6.3 Clean instrument surface: Can be wiped with a clean soft cloth; Heavy dirt can be scrubbed with a neutral cleaner.

> ⚠ ATTENTION
>
> Do not use organic solvents (such as alcohol, ether and its diluent,etc.) to wipe, so as to avoid paint off the surface of the instrument.

6.4 Storage: if you do not use the microscope for a long time, please turn off the power supply of the instrument, fully cool the bulb, put the dust-proof cover on the microscope, and put it in the packing box. Store in a dry, ventilated, clean and acid-alkali vapor-free place to avoid mold.

Machine Translated by Google

7. Troubleshooting schedule

Common fault	Reasons	Solutions
The field of view is blurred or the brightness of the field of view is uneven, and the complete field of view cannot be seen.	The converter is not positioned correctly (the objective is not coaxial with the optical path)	Rotate the objective converter until accurate positioning (moving the objective into the light path correctly)
	The condenser is not centered	Adjust the center of the condenser
	Light bulb was installed incorrectly	Check that the bulb is inserted correctly
	Stains or dust on a condenser, objective, collector, eyepiece, or specimen	Wipe relevant parts
	The aperture is too small	Proper adjusting the diaphragm
The field of view is unclean	Lens surface is not clean	Proper cleaning
	The surface of the slide is not clean	Wipe clean
Lack of clarity Poor imaging	Specimen slide is not covered with glass	Attach cover glass
	Cover glass is too thick or too thin	Use a cover glass of standard thickness (0.17mm)
	The specimen is upside down	Flip the slide so that the cover slide is up
	Oil on the dry objective	Wipe clean

Machine Translated by Google

	Lens surface is not clean (objective/eyepiece/condenser/collector)	Wipe clean
	Aperture is too small	Proper adjusting the diaphragm
Unilateral darkening	Objective converter is not positioned correctly	Rotate the objective converter until accurate positioning
	Specimen is higher than the stage	Specimens should be firmly clamped to the platform clips
Unable to focus when using a high-power objective	Slide upside down	Flip the slide so that the cover slide is up
	Cover glass is too thick	Use specified cover glass (thickness 0.17mm)
	Objective not screwed tightly	Tightening objective
The left and right images do not coincide when viewed with the binocular tube	Unadjusted pupil distance	Adjust interpupillary distance
	Unadjusted diopter	Adjust the diopter
The bulb doesn't work	Power supply not connected	Check whether the power switch is turned on, and whether the charger voltage is consistent with the voltage marked on the instrument
	Power plug is in poor contact with the socket	Check whether the connection between the plug and the socket is firm and reliable

Machine Translated by Google

Light flicker, Luminance instability	Bulb poor contact	Plug the bulb firmly
	Socket poor contact	Check that the socket connection is reliable

WARRANTY POLICY

8.**Warranty policy**

8.1 Warranty period

From the date of purchase, the company provides one-year warranty service for the host

8.2 Non-warranty policy

The following circumstances (but not limited to the following circumstances) are not covered by warranty and need to pay maintenance fees:

*The warranty period has expired.

*Damage caused by force majeure factor.

*Damage caused by human damage or improper use of customs declaration.

*Any damage caused by failure to use, maintain and adjust according to the instructions unauthorized personnel to dismantle, repair, modification, misuse, abuse, liquid intake, accidents, use of non-original parts caused by failure or damage, malicious damage to the warranty card content, tear,tamper, etc.

*Other failure and damage caused by problems other than the design, manufacturing and quality of the product itself.

8.3 Warranty card

Machine Translated by Google

Item Production Number			
Fault phenomenon			
Buying date			
Contact			
Contact address			
Remark：This form is a return copy of the warranty card. Please cut out this form and send it to the seller or manufacturer whose address is on the "back cover".			

The Company reserves the right to make certain improvements to the design as it deems necessary. Therefore, the instructions given in this manual may not fully reflect the detailed features of each product type currently available.

Machine Translated by Google

AFTER-SALES SERVICE

1. If the product you received has other problems such as usage problems, please feel free to contact us and reply to online customer service within 24 hours to serve you.
2. Our products support 90 days for no reason to return or exchange.
3. Wish you a happy online shopping.

CORRET DISPOSAL



This product is subject to the provision of European Directive 2012/19/EC. The symbol showing a wheelie bin crossed through indicates that the product requires separate refuse collection in the European Union. This applies to the product and all accessories marked with this symbol. Products marked as such may not be discarded with normal domestic waste, but must be taken to a collection point for recycling electrical and electronic devices.

Made In China

Machine Translated by Google

Machine Translated by Google

MICROSCOPE

MODEL: XSP-36 XSP-36TV

Machine Translated by Google

Machine Translated by Google

MODEL: XSP-36 XSP-36TV





Machine Translated by Google

INSTRUCTIONS

Thank you very much for choosing this product. Please read all of the instructions before using it. The information will help you achieve the best possible results.

SAFETY TIPS

1. This microscope only uses for micro observation. It can't be for other use, or the instrument will be damaged.
2. Apart from the detachable parts mentioned in this manual, it is strictly prohibited to disassemble any other parts. Otherwise, it may reduce the instrument's capability and can result in electric shock, injured, and damage to instruments. If you have any problems, please contact the nearest agent.
3. The input voltage is indicated on the plate behind the microscope. Make sure the input voltage is consistent with the output voltage of the charging adapter used. If not, do not use the microscope and contact the nearest agent. If using the wrong input voltage, it will cause electric appliance damage, which will damage the microscope.
4. Using improper light source accessories may lead to instrument damage or instruments fire disaster.
5. To prevent electric shock or fire, the power supply must be turned off before installing the microscope, replacing the light source accessories, and plugging or unplugging the power supply switch. To turn off the power switch, just need to flip the switch to "O".
6. To prevent short circuits or other failures, do not place the microscope in a humid area.

* If water is spilled on the microscope, immediately turn off the power switch (flip the switch to "O"), unplug the power cord and wipe off the water with a dry cloth.
* When unidentified objects enter or drip into the microscope, please stop use and contact the nearest sales agent.

Machine Translated by Google

7. When moving the stage, the rack of the stage will extend out. Please be careful not to hurt your hands or other body parts with the rack when operating the microscope.
8. This microscope is a precision optical instrument, if used or kept improperly, it will cause damage to the instrument or adversely affect its accuracy. When choosing a place to use, please consider the following conditions. Otherwise, it may cause the function decline of the instrument or malfunction.
* Avoid placing the microscope in direct sunlight, under indoor vertical lighting, and other bright fields.
* The room temperature of the use environment and place is 0° C - 40° C, and the maximum relative humidity is 85%, do not place the microscope in high temperature and high humidity places. Otherwise, the lens will fog or mold, which will damage the microscope, and shorten its service life.
* Impurities and dust will reduce the optical performance of the microscope, which should be avoided.
* Strong electromagnetic noise will interfere with the output signal of the microscope, so avoid approaching instruments and equipment that emit electromagnetic waves.
* Place the microscope on a sturdy table that can support the weight of the instrument and level it.
9. This microscope is a precision optical instrument, so be careful when carrying it. Heavy impact and rough operation can cause damage to instruments. Vibrating the objective lens will reduce the imaging accuracy.
10. Do not rotate the left and right focusing hand-wheel in opposite directions at the same time. When the stage has reached the limited position of movement, please do not continue to rotate the coarse tuning hand-wheel. These operations will cause damage to the focusing mechanism.
11. When oil immersion observation, only a small amount of oil is needed. To prevent excess oil from polluting the stage and condenser, degrading the performance of the instruments. When replacing the objective lens or ending the observation, the oil should be cleaned in time to avoid dirtying other lenses. It will be difficult to wipe out after the oil is dried.

Machine Translated by Google

PARAMETRI TECNICI

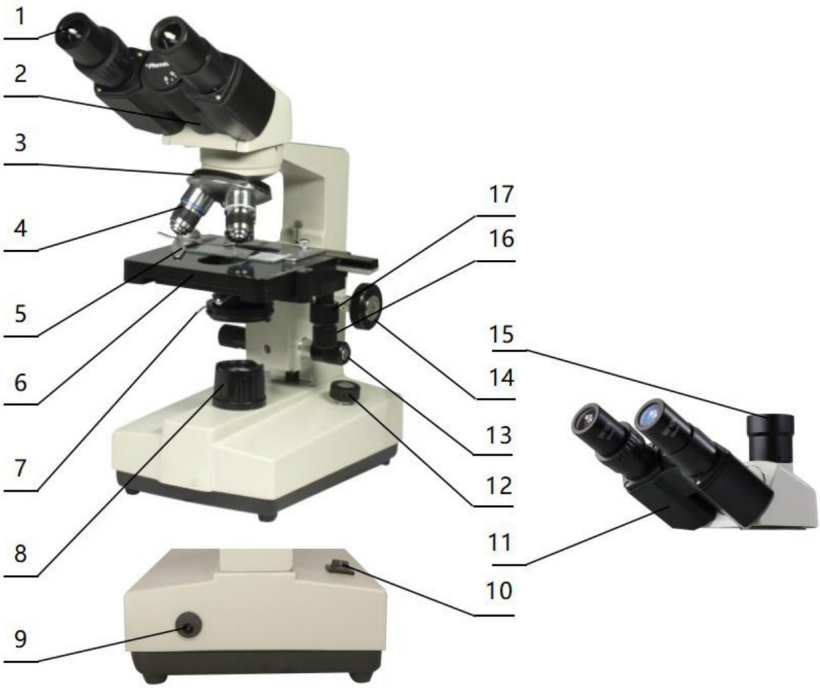
1. Specifiche tecniche

Principale Parametro	Totale Ingrandimento	40X~2500X (XSP-36) 40X~5000X (XSP-36TV)		
	Lunghezza meccanica	160mm distanza coniugata	Obiettivo	185mm
Osservazione	Binocolo incernierato	Visualizzazione , 30° Inclinato	Distanza interpupillare: 48~ 76mm	
	Trinoculare incernierato	Visualizzazione: 30° Inclinato	Distanza interpupillare: 48~ 76mm	
Oculare	Campo largo: WF1 Ox/1 Bmm		Connettore oculare: 23,2 mm	
	Ampio campo: WF25x/8mm			
	Lente di ingrandimento 2X (opzionale)			
Obiettivo	Ingrandimento		N / A	
	Obiettivo acromatico 4X		0,1	
	1 Obiettivo acromatico OX		0,25	
	Obiettivo acromatico 40X(S)		0,65	
	1 OOX(S, 0) Obiettivo acromatico		1,25	
	Connettore obiettivo: WJ 4/5"x1/36"			
Condensatore	Abate Condensatore	NA: 1,25, diaframma a iride, manopola di regolazione		
Sistema di messa a fuoco	La regolazione grossolana e fine non sono coassiali. Gamma grossolana: 14 mm, Gamma fine: 1,3 mm			
Palcoscenico	Stadio meccanico a doppio strato Dimensioni: 115mmx125mm, intervallo di movimento: 72mm*30mm			
Illuminazione LED luce fredda	Alta luminosità fonte	20mA/3,0V		
Leggero fonte	Ingresso	AC100-240V		
	Produzione	CC 5V/1A		

Machine Translated by Google

PARTS LIST

2. Microscope Structure and Characteristics



1. Eyepiece: secondary magnifying of the specimen for observation
2. Binocular observer: observation of the specimen
3. Converter: select different objective lens (positioning with a sound)
4. Objective: primary magnifying of the specimen
5. Clips: fix the specimens
6. Stage: place the specimens
7. Condenser diaphragm lever: adjust the size of the condenser diaphragm hole
8. Collecting: gather light to illuminate the specimen
9. Power connector: connect external power
10. Power switch: the main power switch of the instrument

Machine Translated by Google

11. Trinocular observation: visual and video observation of specimens
12. Brightness adjustment rotary knob: adjust the brightness, so that the field of view is moderate
13. Fine adjustment hand-wheel: micro focusing
14. Coarse adjustment hand-wheel: focus the specimen
15. The third eyepiece: used for connecting extra accessories and CCD
16. X moving hand-wheel: adjust the lateral movement of the stage
17. Y moving hand-wheel: adjust the longitudinal movement of the stage

Machine Translated by Google

INSTALLATION AND USE

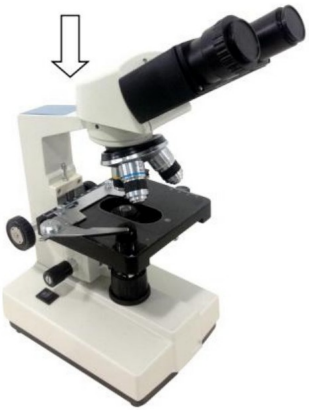
3.Instrument Installation

3.1 Place the microscope on a stable workbench. When moving the instrument, especially the optical parts, should avoid touching the lens' surface with your hands or objects with oil stains. Finger marks or oil stains on the surface of the lens will affect the imaging quality.

3.2 The platform surface is covered with a protective film during transportation. It should be torn off before using the microscope (see picture 1).



Picture 1



Picture 2

3.3 Place the observer gently in the mounting hole of the frame, gently press the upper part of the observation body with one hand and tighten the fixing screw on the head of the frame with the other hand. When installing, ensure that the observation head is in place and not loose (see picture 2).

3.4 After the microscope is installed, insert the DC plug to the power socket in the base and connect to the external power supply, under the situation of supply voltage is consistent with the rated voltage of the instrument.

3.5 Finally, insert the eyepiece into the microscope eyepiece tube.

Machine Translated by Google

OPERATION

4.Operation

4.1 Electric illumination

4.1.1 Turn on the power switch (flip the switch to "-") to make the bulb lighting.

4.1.2 Rotate the brightness adjustment knob to adjust the field of view brightness.

4.2 Install the specimen

4.2.1 Open the section holder gently with your finger, place the specimen in, cover the glass, release your finger and secure the section.

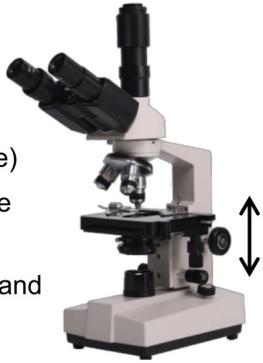
4.2.2 Adjust the platform moving hand-wheel and so that the observed area is directly under the objective lens, make sure it's easy to observation and adjustment.

4.3 Focus with 10X objective

* Rotate the objective converter to turn the 10X objective into the light path (the objective will be automatically snapped when rotate in the right place)

* Rotate the coarse adjustable hand wheel Move the stage to the highest position (see picture 3).

*Observe through the eyepiece, rotate the coarse hand wheel slowly to lower down the stage. Stop rotating when the image appears (see picture 3).



Picture 3

4.4 Rotate the fine hand wheel for precise focusing.

*When you want to observe with a high-magnification objective, first use the 10X or the 4X objective to focus, then replace the high-magnification objective and rotate the fine hand wheel for precise focusing.

*Confirm the direction of rotation when rotating the coarse hand wheel for focusing, can only lower the direction of the stage.

*When using coarse adjustable hand wheels to raise the stage, pay attention to the distance between the specimen surface and the lower-end

Machine Translated by Google

face of the objective.

*Since the working distance is farther for the 10X and 4X objectives, as long as it is used the standard thickness of the slide and cover glass (the standard thickness of the slide and cover glass is 1.2mm and 0.17mm, respectively), even if the stage is moved to the highest position, the objective lens will not touch the specimen.

4.5 Select Objective

Rotate objective Converter. Select the desired objective magnification (the objective can be automatically snapped when rotated in the right place)

4.6 Adjust the diaphragm adjusting knob makes the aperture diaphragm meet the observation requirements (see picture 4).

4.7 After the observation is finished, turn off the power switch.



Diaphragm adjusting knob

Picture 4

Machine Translated by Google

5 Installation and use of accessories (optional)

5.1 Installed external CCD camera accessories

ATTENTION:

For the parameters and usage of the CCD camera and digital viewer, please refer to the instruction manual contained in the CDROM supplied with the CCD camera or digital viewer.

Trinocular observation viewer:

Take out the CCD camera, screw the lens end on the additional connector, insert the interface into the third eyepiece. Use the provided hex hook wrench to hold the screw fixing the additional connector tight, use the provided USB cable to connect the video output end of the CCD camera and the video input end of the computer. Plug in the microscope power plug, turn on the microscope and the computer switch. According to the focusing method described in the operation manual, adjust the image clearly adjust the adjustable viewing tube on the additional connector until a clear image appears on the computer screen, video observation is available (see picture 5).

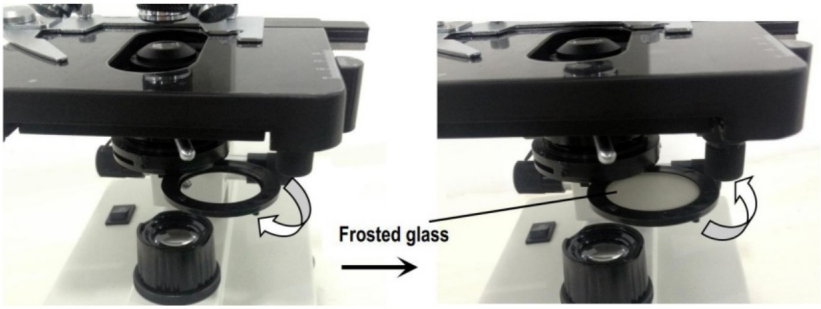


Picture 5

Machine Translated by Google

5.2 The installation of frosted glass

When using the LED lighting, it is necessary to add frosted glass, first turn out the ground glass bracket, put the frosted glass smoothly into the bracket slot, and then turn the frosted glass bracket back to the original position (see picture 6).



Picture 6

ATTENTION

When you observe with 4x objective lens, it is necessary to install frosted glass, and it is also recommended try to use frosted glass to ensure uniform lighting when it is observed with 10X.

Machine Translated by Google

6. Maintenance

6.1 When the microscope is finished observing or suspended, cut off the power supply to avoid the electrical components in the instrument are still in the working state. When not used for a long time, the power plug should be removed from the power socket and all transmission wires should be properly kept.

6.2 Clean lens: Use a blow ball or a soft brush to wipe the dust off the lens. Heavy dirt and fingerprints can be gently wiped by lens paper or soft cloth dipped in a little alcohol and ether mixture (the mixture of the two is about 20 to 30% alcohol, 70 to 80% ether).

6.3 Clean instrument surface: Can be wiped with a clean soft cloth; Heavy dirt can be scrubbed with a neutral cleaner.

> ⚠ ATTENTION
>
> Do not use organic solvents (such as alcohol, ether and its diluent,etc.) to wipe, so as to avoid paint off the surface of the instrument.

6.4 Storage: if you do not use the microscope for a long time, please turn off the power supply of the instrument, fully cool the bulb, put the dust-proof cover on the microscope, and put it in the packing box. Store in a dry, ventilated, clean and acid-alkali vapor-free place to avoid mold.

Machine Translated by Google

7. Troubleshooting schedule

Common fault	Reasons	Solutions
The field of view is blurred or the brightness of the field of view is uneven, and the complete field of view cannot be seen.	The converter is not positioned correctly (the objective is not coaxial with the optical path)	Rotate the objective converter until accurate positioning (moving the objective into the light path correctly)
	The condenser is not centered	Adjust the center of the condenser
	Light bulb was installed incorrectly	Check that the bulb is inserted correctly
	Stains or dust on a condenser, objective, collector, eyepiece, or specimen	Wipe relevant parts
	The aperture is too small	Proper adjusting the diaphragm
The field of view is unclean	Lens surface is not clean	Proper cleaning
	The surface of the slide is not clean	Wipe clean
Lack of clarity Poor imaging	Specimen slide is not covered with glass	Attach cover glass
	Cover glass is too thick or too thin	Use a cover glass of standard thickness (0.17mm)
	The specimen is upside down	Flip the slide so that the cover slide is up
	Oil on the dry objective	Wipe clean

Machine Translated by Google

	Lens surface is not clean (objective/eyepiece/condenser/collector)	Wipe clean
	Aperture is too small	Proper adjusting the diaphragm
Unilateral darkening	Objective converter is not positioned correctly	Rotate the objective converter until accurate positioning
	Specimen is higher than the stage	Specimens should be firmly clamped to the platform clips
Unable to focus when using a high-power objective	Slide upside down	Flip the slide so that the cover slide is up
	Cover glass is too thick	Use specified cover glass (thickness 0.17mm)
	Objective not screwed tightly	Tightening objective
The left and right images do not coincide when viewed with the binocular tube	Unadjusted pupil distance	Adjust interpupillary distance
	Unadjusted diopter	Adjust the diopter
The bulb doesn't work	Power supply not connected	Check whether the power switch is turned on, and whether the charger voltage is consistent with the voltage marked on the instrument
	Power plug is in poor contact with the socket	Check whether the connection between the plug and the socket is firm and reliable

Machine Translated by Google

Light flicker, Luminance instability	Bulb poor contact	Plug the bulb firmly
	Socket poor contact	Check that the socket connection is reliable

WARRANTY POLICY

8.**Warranty policy**

8.1 Warranty period

From the date of purchase, the company provides one-year warranty service for the host

8.2 Non-warranty policy

The following circumstances (but not limited to the following circumstances) are not covered by warranty and need to pay maintenance fees:

*The warranty period has expired.

*Damage caused by force majeure factor.

*Damage caused by human damage or improper use of customs declaration.

*Any damage caused by failure to use, maintain and adjust according to the instructions unauthorized personnel to dismantle, repair, modification, misuse, abuse, liquid intake, accidents, use of non-original parts caused by failure or damage, malicious damage to the warranty card content, tear,tamper, etc.

*Other failure and damage caused by problems other than the design, manufacturing and quality of the product itself.

8.3 Warranty card

Machine Translated by Google

Item Production Number			
Fault phenomenon			
Buying date			
Contact			
Contact address			
Remark：This form is a return copy of the warranty card. Please cut out this form and send it to the seller or manufacturer whose address is on the "back cover".			

The Company reserves the right to make certain improvements to the design as it deems necessary. Therefore, the instructions given in this manual may not fully reflect the detailed features of each product type currently available.

Machine Translated by Google

AFTER-SALES SERVICE

1. If the product you received has other problems such as usage problems, please feel free to contact us and reply to online customer service within 24 hours to serve you.
2. Our products support 90 days for no reason to return or exchange.
3. Wish you a happy online shopping.

CORRET DISPOSAL



This product is subject to the provision of European Directive 2012/19/EC. The symbol showing a wheelie bin crossed through indicates that the product requires separate refuse collection in the European Union. This applies to the product and all accessories marked with this symbol. Products marked as such may not be discarded with normal domestic waste, but must be taken to a collection point for recycling electrical and electronic devices.

Made In China

Machine Translated by Google

Machine Translated by Google

MICROSCOPE

MODEL: XSP-36 XSP-36TV

Machine Translated by Google

Machine Translated by Google

MODEL: XSP-36 XSP-36TV





Machine Translated by Google

INSTRUCTIONS

Thank you very much for choosing this product. Please read all of the instructions before using it. The information will help you achieve the best possible results.

SAFETY TIPS

1. This microscope only uses for micro observation. It can't be for other use, or the instrument will be damaged.
2. Apart from the detachable parts mentioned in this manual, it is strictly prohibited to disassemble any other parts. Otherwise, it may reduce the instrument's capability and can result in electric shock, injured, and damage to instruments. If you have any problems, please contact the nearest agent.
3. The input voltage is indicated on the plate behind the microscope. Make sure the input voltage is consistent with the output voltage of the charging adapter used. If not, do not use the microscope and contact the nearest agent. If using the wrong input voltage, it will cause electric appliance damage, which will damage the microscope.
4. Using improper light source accessories may lead to instrument damage or instruments fire disaster.
5. To prevent electric shock or fire, the power supply must be turned off before installing the microscope, replacing the light source accessories, and plugging or unplugging the power supply switch. To turn off the power switch, just need to flip the switch to "O".
6. To prevent short circuits or other failures, do not place the microscope in a humid area.

* If water is spilled on the microscope, immediately turn off the power switch (flip the switch to "O"), unplug the power cord and wipe off the water with a dry cloth.
* When unidentified objects enter or drip into the microscope, please stop use and contact the nearest sales agent.

Machine Translated by Google

7. When moving the stage, the rack of the stage will extend out. Please be careful not to hurt your hands or other body parts with the rack when operating the microscope.
8. This microscope is a precision optical instrument, if used or kept improperly, it will cause damage to the instrument or adversely affect its accuracy. When choosing a place to use, please consider the following conditions. Otherwise, it may cause the function decline of the instrument or malfunction.
* Avoid placing the microscope in direct sunlight, under indoor vertical lighting, and other bright fields.
* The room temperature of the use environment and place is 0° C - 40° C, and the maximum relative humidity is 85%, do not place the microscope in high temperature and high humidity places. Otherwise, the lens will fog or mold, which will damage the microscope, and shorten its service life.
* Impurities and dust will reduce the optical performance of the microscope, which should be avoided.
* Strong electromagnetic noise will interfere with the output signal of the microscope, so avoid approaching instruments and equipment that emit electromagnetic waves.
* Place the microscope on a sturdy table that can support the weight of the instrument and level it.
9. This microscope is a precision optical instrument, so be careful when carrying it. Heavy impact and rough operation can cause damage to instruments. Vibrating the objective lens will reduce the imaging accuracy.
10. Do not rotate the left and right focusing hand-wheel in opposite directions at the same time. When the stage has reached the limited position of movement, please do not continue to rotate the coarse tuning hand-wheel. These operations will cause damage to the focusing mechanism.
11. When oil immersion observation, only a small amount of oil is needed. To prevent excess oil from polluting the stage and condenser, degrading the performance of the instruments. When replacing the objective lens or ending the observation, the oil should be cleaned in time to avoid dirtying other lenses. It will be difficult to wipe out after the oil is dried.

Machine Translated by Google

PARÁMETROS TÉCNICOS

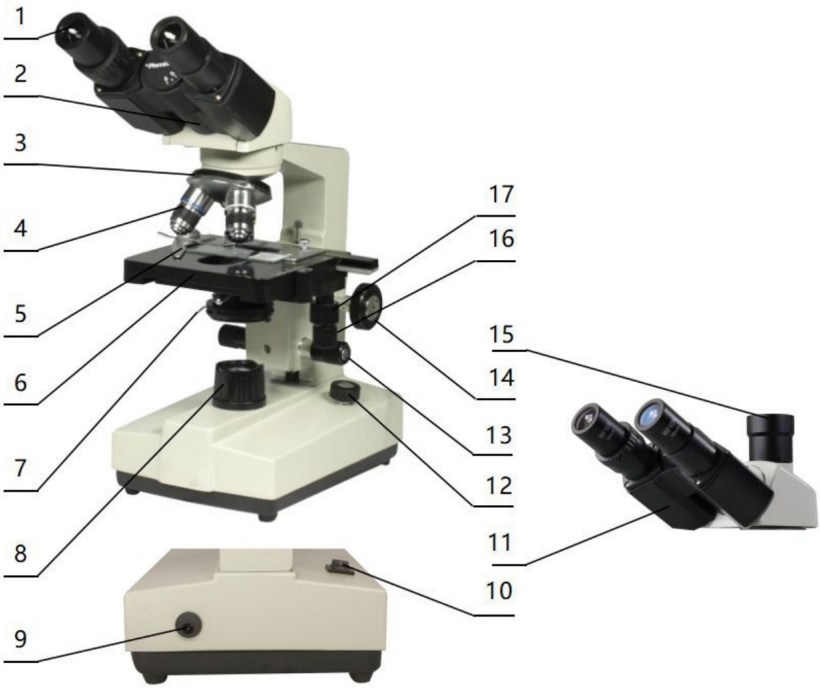
1. Especificaciones técnicas

Principal Parámetro	Total Aumento	40X ~ 2500X (XSP-36) 40X~5000X (XSP-36TV)		
	Longitud mecánica	160mm distancia conjugada	Objetivo	185 mm
Observación	Binoculares con bisagras	Viendo , 30 ° Inclinado	Distancia interpupilar: 48 ~ 76 mm	
	Trinocular con bisagras	Viendo : 30 ° Inclinado	Distancia interpupilar: 48 ~ 76 mm	
Ocular	Campo amplio: WF1 Ox/1 Bmm		Conector del ocular: 23,2 mm	
	Campo amplio: WF25x/8 mm			
	Lente de aumento 2X (opcional)			
Objetivo	Aumento		N / A	
	Objetivo acromático 4X		0,1	
	1 Objetivo acromático OX		0,25	
	Objetivo acromático 40X(S)		0,65	
	Objetivo acromático 1 OOX(S, 0)		1.25	
	Conector objetivo: WJ 4/5"x1/36"			
Condensador	Abate Condensador	NA: 1,25, diafragma iris, perilla de ajuste		
Sistema de enfoque	El ajuste grueso y fino no son coaxiales Rango grueso: 14 mm, Rango fino: 1,3 mm			
Escenario	Platina mecánica de doble capa Tamaño: 115 mm x 125 mm, rango de movimiento: 72 mm x 30 mm			
Iluminación LED luz fría fuente	Alto brillo	20 mA/3,0 V		
Luz fuente	Aporte	CA 100-240 V		
	Producción	5 V CC/1 A		

Machine Translated by Google

PARTS LIST

2. Microscope Structure and Characteristics



1. Eyepiece: secondary magnifying of the specimen for observation
2. Binocular observer: observation of the specimen
3. Converter: select different objective lens (positioning with a sound)
4. Objective: primary magnifying of the specimen
5. Clips: fix the specimens
6. Stage: place the specimens
7. Condenser diaphragm lever: adjust the size of the condenser diaphragm hole
8. Collecting: gather light to illuminate the specimen
9. Power connector: connect external power
10. Power switch: the main power switch of the instrument

Machine Translated by Google

11. Trinocular observation: visual and video observation of specimens
12. Brightness adjustment rotary knob: adjust the brightness, so that the field of view is moderate
13. Fine adjustment hand-wheel: micro focusing
14. Coarse adjustment hand-wheel: focus the specimen
15. The third eyepiece: used for connecting extra accessories and CCD
16. X moving hand-wheel: adjust the lateral movement of the stage
17. Y moving hand-wheel: adjust the longitudinal movement of the stage

Machine Translated by Google

INSTALLATION AND USE

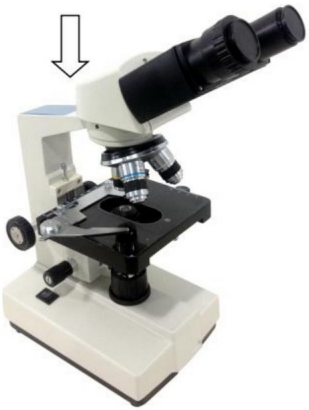
3.Instrument Installation

3.1 Place the microscope on a stable workbench. When moving the instrument, especially the optical parts, should avoid touching the lens' surface with your hands or objects with oil stains. Finger marks or oil stains on the surface of the lens will affect the imaging quality.

3.2 The platform surface is covered with a protective film during transportation. It should be torn off before using the microscope (see picture 1).



Picture 1



Picture 2

3.3 Place the observer gently in the mounting hole of the frame, gently press the upper part of the observation body with one hand and tighten the fixing screw on the head of the frame with the other hand. When installing, ensure that the observation head is in place and not loose (see picture 2).

3.4 After the microscope is installed, insert the DC plug to the power socket in the base and connect to the external power supply, under the situation of supply voltage is consistent with the rated voltage of the instrument.

3.5 Finally, insert the eyepiece into the microscope eyepiece tube.

Machine Translated by Google

OPERATION

4.Operation

4.1 Electric illumination

4.1.1 Turn on the power switch (flip the switch to "-") to make the bulb lighting.

4.1.2 Rotate the brightness adjustment knob to adjust the field of view brightness.

4.2 Install the specimen

4.2.1 Open the section holder gently with your finger, place the specimen in, cover the glass, release your finger and secure the section.

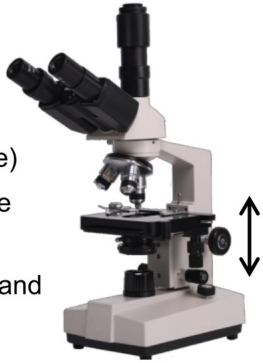
4.2.2 Adjust the platform moving hand-wheel and so that the observed area is directly under the objective lens, make sure it's easy to observation and adjustment.

4.3 Focus with 10X objective

* Rotate the objective converter to turn the 10X objective into the light path (the objective will be automatically snapped when rotate in the right place)

* Rotate the coarse adjustable hand wheel Move the stage to the highest position (see picture 3).

*Observe through the eyepiece, rotate the coarse hand wheel slowly to lower down the stage. Stop rotating when the image appears (see picture 3).



Picture 3

4.4 Rotate the fine hand wheel for precise focusing.

*When you want to observe with a high-magnification objective, first use the 10X or the 4X objective to focus, then replace the high-magnification objective and rotate the fine hand wheel for precise focusing.

*Confirm the direction of rotation when rotating the coarse hand wheel for focusing, can only lower the direction of the stage.

*When using coarse adjustable hand wheels to raise the stage, pay attention to the distance between the specimen surface and the lower-end

Machine Translated by Google

face of the objective.

*Since the working distance is farther for the 10X and 4X objectives, as long as it is used the standard thickness of the slide and cover glass (the standard thickness of the slide and cover glass is 1.2mm and 0.17mm, respectively), even if the stage is moved to the highest position, the objective lens will not touch the specimen.

4.5 Select Objective

Rotate objective Converter. Select the desired objective magnification (the objective can be automatically snapped when rotated in the right place)

4.6 Adjust the diaphragm adjusting knob makes the aperture diaphragm meet the observation requirements (see picture 4).

4.7 After the observation is finished, turn off the power switch.



Diaphragm adjusting knob

Picture 4

Machine Translated by Google

5 Installation and use of accessories (optional)

5.1 Installed external CCD camera accessories

ATTENTION:

For the parameters and usage of the CCD camera and digital viewer, please refer to the instruction manual contained in the CDROM supplied with the CCD camera or digital viewer.

Trinocular observation viewer:

Take out the CCD camera, screw the lens end on the additional connector, insert the interface into the third eyepiece. Use the provided hex hook wrench to hold the screw fixing the additional connector tight, use the provided USB cable to connect the video output end of the CCD camera and the video input end of the computer. Plug in the microscope power plug, turn on the microscope and the computer switch. According to the focusing method described in the operation manual, adjust the image clearly adjust the adjustable viewing tube on the additional connector until a clear image appears on the computer screen, video observation is available (see picture 5).

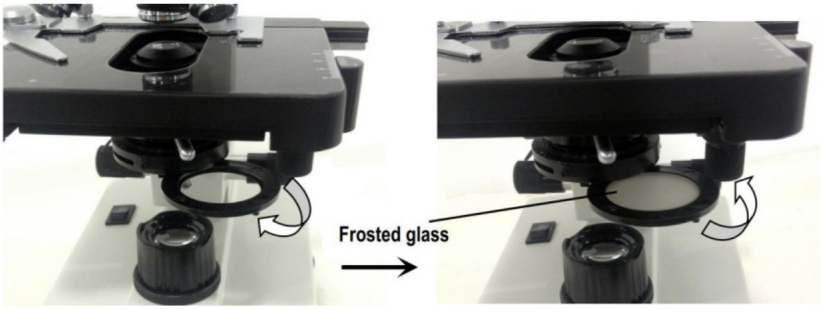


Picture 5

Machine Translated by Google

5.2 The installation of frosted glass

When using the LED lighting, it is necessary to add frosted glass, first turn out the ground glass bracket, put the frosted glass smoothly into the bracket slot, and then turn the frosted glass bracket back to the original position (see picture 6).



Picture 6

ATTENTION

When you observe with 4x objective lens, it is necessary to install frosted glass, and it is also recommended try to use frosted glass to ensure uniform lighting when it is observed with 10X.

Machine Translated by Google

6. Maintenance

6.1 When the microscope is finished observing or suspended, cut off the power supply to avoid the electrical components in the instrument are still in the working state. When not used for a long time, the power plug should be removed from the power socket and all transmission wires should be properly kept.

6.2 Clean lens: Use a blow ball or a soft brush to wipe the dust off the lens. Heavy dirt and fingerprints can be gently wiped by lens paper or soft cloth dipped in a little alcohol and ether mixture (the mixture of the two is about 20 to 30% alcohol, 70 to 80% ether).

6.3 Clean instrument surface: Can be wiped with a clean soft cloth; Heavy dirt can be scrubbed with a neutral cleaner.

> ⚠ ATTENTION
>
> Do not use organic solvents (such as alcohol, ether and its diluent,etc.) to wipe, so as to avoid paint off the surface of the instrument.

6.4 Storage: if you do not use the microscope for a long time, please turn off the power supply of the instrument, fully cool the bulb, put the dust-proof cover on the microscope, and put it in the packing box. Store in a dry, ventilated, clean and acid-alkali vapor-free place to avoid mold.

Machine Translated by Google

7. Troubleshooting schedule

Common fault	Reasons	Solutions
The field of view is blurred or the brightness of the field of view is uneven, and the complete field of view cannot be seen.	The converter is not positioned correctly (the objective is not coaxial with the optical path)	Rotate the objective converter until accurate positioning (moving the objective into the light path correctly)
	The condenser is not centered	Adjust the center of the condenser
	Light bulb was installed incorrectly	Check that the bulb is inserted correctly
	Stains or dust on a condenser, objective, collector, eyepiece, or specimen	Wipe relevant parts
	The aperture is too small	Proper adjusting the diaphragm
The field of view is unclean	Lens surface is not clean	Proper cleaning
	The surface of the slide is not clean	Wipe clean
Lack of clarity Poor imaging	Specimen slide is not covered with glass	Attach cover glass
	Cover glass is too thick or too thin	Use a cover glass of standard thickness (0.17mm)
	The specimen is upside down	Flip the slide so that the cover slide is up
	Oil on the dry objective	Wipe clean

Machine Translated by Google

	Lens surface is not clean (objective/eyepiece/condenser/collector)	Wipe clean
	Aperture is too small	Proper adjusting the diaphragm
Unilateral darkening	Objective converter is not positioned correctly	Rotate the objective converter until accurate positioning
	Specimen is higher than the stage	Specimens should be firmly clamped to the platform clips
Unable to focus when using a high-power objective	Slide upside down	Flip the slide so that the cover slide is up
	Cover glass is too thick	Use specified cover glass (thickness 0.17mm)
	Objective not screwed tightly	Tightening objective
The left and right images do not coincide when viewed with the binocular tube	Unadjusted pupil distance	Adjust interpupillary distance
	Unadjusted diopter	Adjust the diopter
The bulb doesn't work	Power supply not connected	Check whether the power switch is turned on, and whether the charger voltage is consistent with the voltage marked on the instrument
	Power plug is in poor contact with the socket	Check whether the connection between the plug and the socket is firm and reliable

Machine Translated by Google

Light flicker, Luminance instability	Bulb poor contact	Plug the bulb firmly
	Socket poor contact	Check that the socket connection is reliable

WARRANTY POLICY

8.**Warranty policy**

8.1 Warranty period

From the date of purchase, the company provides one-year warranty service for the host

8.2 Non-warranty policy

The following circumstances (but not limited to the following circumstances) are not covered by warranty and need to pay maintenance fees:

*The warranty period has expired.

*Damage caused by force majeure factor.

*Damage caused by human damage or improper use of customs declaration.

*Any damage caused by failure to use, maintain and adjust according to the instructions unauthorized personnel to dismantle, repair, modification, misuse, abuse, liquid intake, accidents, use of non-original parts caused by failure or damage, malicious damage to the warranty card content, tear,tamper, etc.

*Other failure and damage caused by problems other than the design, manufacturing and quality of the product itself.

8.3 Warranty card

Machine Translated by Google

Item Production Number			
Fault phenomenon			
Buying date			
Contact			
Contact address			
Remark：This form is a return copy of the warranty card. Please cut out this form and send it to the seller or manufacturer whose address is on the "back cover".			

The Company reserves the right to make certain improvements to the design as it deems necessary. Therefore, the instructions given in this manual may not fully reflect the detailed features of each product type currently available.

Machine Translated by Google

AFTER-SALES SERVICE

1. If the product you received has other problems such as usage problems, please feel free to contact us and reply to online customer service within 24 hours to serve you.
2. Our products support 90 days for no reason to return or exchange.
3. Wish you a happy online shopping.

CORRET DISPOSAL



This product is subject to the provision of European Directive 2012/19/EC. The symbol showing a wheelie bin crossed through indicates that the product requires separate refuse collection in the European Union. This applies to the product and all accessories marked with this symbol. Products marked as such may not be discarded with normal domestic waste, but must be taken to a collection point for recycling electrical and electronic devices.

Made In China

Machine Translated by Google

Machine Translated by Google

MICROSCOPE

MODEL: XSP-36 XSP-36TV

Machine Translated by Google

Machine Translated by Google

MODEL: XSP-36 XSP-36TV





Machine Translated by Google

INSTRUCTIONS

Thank you very much for choosing this product. Please read all of the instructions before using it. The information will help you achieve the best possible results.

SAFETY TIPS

1. This microscope only uses for micro observation. It can't be for other use, or the instrument will be damaged.
2. Apart from the detachable parts mentioned in this manual, it is strictly prohibited to disassemble any other parts. Otherwise, it may reduce the instrument's capability and can result in electric shock, injured, and damage to instruments. If you have any problems, please contact the nearest agent.
3. The input voltage is indicated on the plate behind the microscope. Make sure the input voltage is consistent with the output voltage of the charging adapter used. If not, do not use the microscope and contact the nearest agent. If using the wrong input voltage, it will cause electric appliance damage, which will damage the microscope.
4. Using improper light source accessories may lead to instrument damage or instruments fire disaster.
5. To prevent electric shock or fire, the power supply must be turned off before installing the microscope, replacing the light source accessories, and plugging or unplugging the power supply switch. To turn off the power switch, just need to flip the switch to "O".
6. To prevent short circuits or other failures, do not place the microscope in a humid area.

* If water is spilled on the microscope, immediately turn off the power switch (flip the switch to "O"), unplug the power cord and wipe off the water with a dry cloth.
* When unidentified objects enter or drip into the microscope, please stop use and contact the nearest sales agent.

Machine Translated by Google

7. When moving the stage, the rack of the stage will extend out. Please be careful not to hurt your hands or other body parts with the rack when operating the microscope.
8. This microscope is a precision optical instrument, if used or kept improperly, it will cause damage to the instrument or adversely affect its accuracy. When choosing a place to use, please consider the following conditions. Otherwise, it may cause the function decline of the instrument or malfunction.
* Avoid placing the microscope in direct sunlight, under indoor vertical lighting, and other bright fields.
* The room temperature of the use environment and place is 0° C - 40° C, and the maximum relative humidity is 85%, do not place the microscope in high temperature and high humidity places. Otherwise, the lens will fog or mold, which will damage the microscope, and shorten its service life.
* Impurities and dust will reduce the optical performance of the microscope, which should be avoided.
* Strong electromagnetic noise will interfere with the output signal of the microscope, so avoid approaching instruments and equipment that emit electromagnetic waves.
* Place the microscope on a sturdy table that can support the weight of the instrument and level it.
9. This microscope is a precision optical instrument, so be careful when carrying it. Heavy impact and rough operation can cause damage to instruments. Vibrating the objective lens will reduce the imaging accuracy.
10. Do not rotate the left and right focusing hand-wheel in opposite directions at the same time. When the stage has reached the limited position of movement, please do not continue to rotate the coarse tuning hand-wheel. These operations will cause damage to the focusing mechanism.
11. When oil immersion observation, only a small amount of oil is needed. To prevent excess oil from polluting the stage and condenser, degrading the performance of the instruments. When replacing the objective lens or ending the observation, the oil should be cleaned in time to avoid dirtying other lenses. It will be difficult to wipe out after the oil is dried.

Machine Translated by Google

PARAMETRY TECHNICZNE

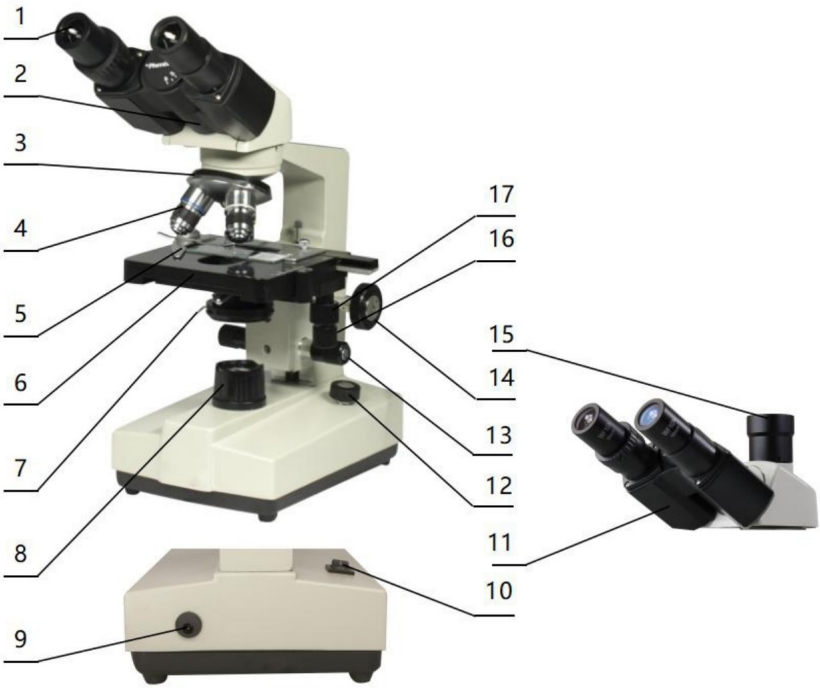
1. Specyfikacja techniczna

Główny Parametr	Całkowity Powiększenie	40X~2500X (XSP-36) 40X~5000X (XSP-36TV)		
	Długość mechaniczna	odległość sprzężona 160 mm	Obiektywna	185 mm
Obserwacja	Lornetka z zawiasami	Wyświetlanie, 30° Skłonny	Odległość między źrenicami: 48~76mm	
	Zawiasowy trinokular	Wyświetlanie: 30° Skłonny	Odległość między źrenicami: 48~76mm	
Okular	Szerokie pole: WF1 Ox/1 Bmm		Złącze okularu: 23,2 mm	
	Szerokie pole: WF25x/8mm			
	Soczewka powiększająca 2X (opcjonalnie)			
Cel	Powiększenie		Nie dotyczy	
	Obiektyw achromatyczny 4X		0,1	
	1 OX Obiektyw achromatyczny		0,25	
	Obiektyw achromatyczny 40X(S)		0,65	
	1 OOX(S, 0) Obiektyw achromatyczny		1,25	
	Złącze obiektywne: WJ 4/5"x1/36"			
Skraplacz	Opat Skraplacz	NA: 1,25, przysłona irysowa, pokrętło regulacji		
System ustawiania ostrości	Strojenie zgrubne i precyzyjne nie są współosiowe. Zakres zgrubny: 14 mm, zakres precyzyjny: 1,3 mm			
Scena	Dwuwarstwowy stopień mechaniczny Rozmiar: 115mmx125mm, Zakres ruchu: 72mm*30mm			
Oświetlenie LED zimne światło	Wysoka jasność źródło	20mA/3,0V		
Światło źródło	Wejście	Prąd zmienny 100-240 V		
	Wyjście	Prąd stały 5 V/ 1 A		

Machine Translated by Google

PARTS LIST

2. Microscope Structure and Characteristics



1. Eyepiece: secondary magnifying of the specimen for observation
2. Binocular observer: observation of the specimen
3. Converter: select different objective lens (positioning with a sound)
4. Objective: primary magnifying of the specimen
5. Clips: fix the specimens
6. Stage: place the specimens
7. Condenser diaphragm lever: adjust the size of the condenser diaphragm hole
8. Collecting: gather light to illuminate the specimen
9. Power connector: connect external power
10. Power switch: the main power switch of the instrument

Machine Translated by Google

11. Trinocular observation: visual and video observation of specimens
12. Brightness adjustment rotary knob: adjust the brightness, so that the field of view is moderate
13. Fine adjustment hand-wheel: micro focusing
14. Coarse adjustment hand-wheel: focus the specimen
15. The third eyepiece: used for connecting extra accessories and CCD
16. X moving hand-wheel: adjust the lateral movement of the stage
17. Y moving hand-wheel: adjust the longitudinal movement of the stage

Machine Translated by Google

INSTALLATION AND USE

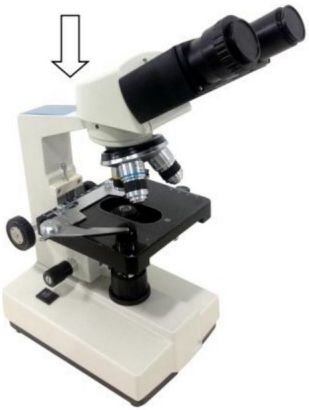
3.Instrument Installation

3.1 Place the microscope on a stable workbench. When moving the instrument, especially the optical parts, should avoid touching the lens' surface with your hands or objects with oil stains. Finger marks or oil stains on the surface of the lens will affect the imaging quality.

3.2 The platform surface is covered with a protective film during transportation. It should be torn off before using the microscope (see picture 1).



Picture 1



Picture 2

3.3 Place the observer gently in the mounting hole of the frame, gently press the upper part of the observation body with one hand and tighten the fixing screw on the head of the frame with the other hand. When installing, ensure that the observation head is in place and not loose (see picture 2).

3.4 After the microscope is installed, insert the DC plug to the power socket in the base and connect to the external power supply, under the situation of supply voltage is consistent with the rated voltage of the instrument.

3.5 Finally, insert the eyepiece into the microscope eyepiece tube.

Machine Translated by Google

OPERATION

4.Operation

4.1 Electric illumination

4.1.1 Turn on the power switch (flip the switch to "-") to make the bulb lighting.

4.1.2 Rotate the brightness adjustment knob to adjust the field of view brightness.

4.2 Install the specimen

4.2.1 Open the section holder gently with your finger, place the specimen in, cover the glass, release your finger and secure the section.

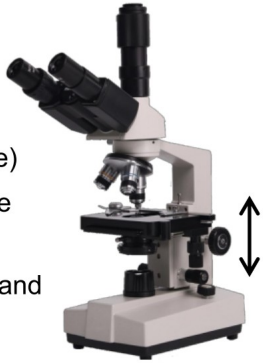
4.2.2 Adjust the platform moving hand-wheel and so that the observed area is directly under the objective lens, make sure it's easy to observation and adjustment.

4.3 Focus with 10X objective

* Rotate the objective converter to turn the 10X objective into the light path (the objective will be automatically snapped when rotate in the right place)

* Rotate the coarse adjustable hand wheel Move the stage to the highest position (see picture 3).

*Observe through the eyepiece, rotate the coarse hand wheel slowly to lower down the stage. Stop rotating when the image appears (see picture 3).



Picture 3

4.4 Rotate the fine hand wheel for precise focusing.

*When you want to observe with a high-magnification objective, first use the 10X or the 4X objective to focus, then replace the high-magnification objective and rotate the fine hand wheel for precise focusing.

*Confirm the direction of rotation when rotating the coarse hand wheel for focusing, can only lower the direction of the stage.

*When using coarse adjustable hand wheels to raise the stage, pay attention to the distance between the specimen surface and the lower-end

Machine Translated by Google

face of the objective.

*Since the working distance is farther for the 10X and 4X objectives, as long as it is used the standard thickness of the slide and cover glass (the standard thickness of the slide and cover glass is 1.2mm and 0.17mm, respectively), even if the stage is moved to the highest position, the objective lens will not touch the specimen.

4.5 Select Objective

Rotate objective Converter. Select the desired objective magnification (the objective can be automatically snapped when rotated in the right place)

4.6 Adjust the diaphragm adjusting knob makes the aperture diaphragm meet the observation requirements (see picture 4).

4.7 After the observation is finished, turn off the power switch.



Diaphragm adjusting knob

Picture 4

Machine Translated by Google

5 Installation and use of accessories (optional)

5.1 Installed external CCD camera accessories

ATTENTION:

For the parameters and usage of the CCD camera and digital viewer, please refer to the instruction manual contained in the CDROM supplied with the CCD camera or digital viewer.

Trinocular observation viewer:

Take out the CCD camera, screw the lens end on the additional connector, insert the interface into the third eyepiece. Use the provided hex hook wrench to hold the screw fixing the additional connector tight, use the provided USB cable to connect the video output end of the CCD camera and the video input end of the computer. Plug in the microscope power plug, turn on the microscope and the computer switch. According to the focusing method described in the operation manual, adjust the image clearly adjust the adjustable viewing tube on the additional connector until a clear image appears on the computer screen, video observation is available (see picture 5).

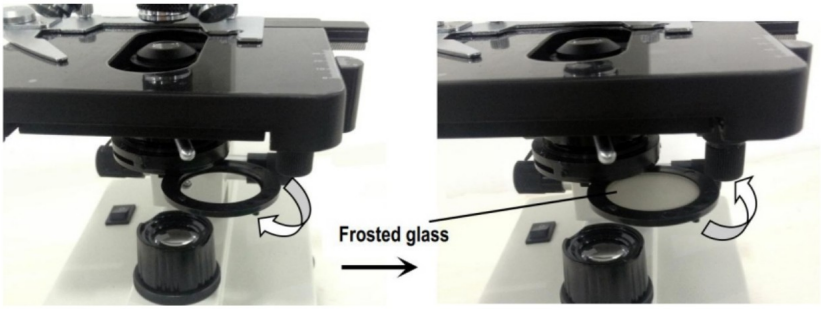


Picture 5

Machine Translated by Google

5.2 The installation of frosted glass

When using the LED lighting, it is necessary to add frosted glass, first turn out the ground glass bracket, put the frosted glass smoothly into the bracket slot, and then turn the frosted glass bracket back to the original position (see picture 6).



Picture 6

ATTENTION

When you observe with 4x objective lens, it is necessary to install frosted glass, and it is also recommended try to use frosted glass to ensure uniform lighting when it is observed with 10X.

Machine Translated by Google

6. Maintenance

6.1 When the microscope is finished observing or suspended, cut off the power supply to avoid the electrical components in the instrument are still in the working state. When not used for a long time, the power plug should be removed from the power socket and all transmission wires should be properly kept.

6.2 Clean lens: Use a blow ball or a soft brush to wipe the dust off the lens. Heavy dirt and fingerprints can be gently wiped by lens paper or soft cloth dipped in a little alcohol and ether mixture (the mixture of the two is about 20 to 30% alcohol, 70 to 80% ether).

6.3 Clean instrument surface: Can be wiped with a clean soft cloth; Heavy dirt can be scrubbed with a neutral cleaner.

> ⚠ ATTENTION
>
> Do not use organic solvents (such as alcohol, ether and its diluent,etc.) to wipe, so as to avoid paint off the surface of the instrument.

6.4 Storage: if you do not use the microscope for a long time, please turn off the power supply of the instrument, fully cool the bulb, put the dust-proof cover on the microscope, and put it in the packing box. Store in a dry, ventilated, clean and acid-alkali vapor-free place to avoid mold.

Machine Translated by Google

7. Troubleshooting schedule

Common fault	Reasons	Solutions
The field of view is blurred or the brightness of the field of view is uneven, and the complete field of view cannot be seen.	The converter is not positioned correctly (the objective is not coaxial with the optical path)	Rotate the objective converter until accurate positioning (moving the objective into the light path correctly)
	The condenser is not centered	Adjust the center of the condenser
	Light bulb was installed incorrectly	Check that the bulb is inserted correctly
	Stains or dust on a condenser, objective, collector, eyepiece, or specimen	Wipe relevant parts
	The aperture is too small	Proper adjusting the diaphragm
The field of view is unclean	Lens surface is not clean	Proper cleaning
	The surface of the slide is not clean	Wipe clean
Lack of clarity Poor imaging	Specimen slide is not covered with glass	Attach cover glass
	Cover glass is too thick or too thin	Use a cover glass of standard thickness (0.17mm)
	The specimen is upside down	Flip the slide so that the cover slide is up
	Oil on the dry objective	Wipe clean

Machine Translated by Google

	Lens surface is not clean (objective/eyepiece/condenser/collector)	Wipe clean
	Aperture is too small	Proper adjusting the diaphragm
Unilateral darkening	Objective converter is not positioned correctly	Rotate the objective converter until accurate positioning
	Specimen is higher than the stage	Specimens should be firmly clamped to the platform clips
Unable to focus when using a high-power objective	Slide upside down	Flip the slide so that the cover slide is up
	Cover glass is too thick	Use specified cover glass (thickness 0.17mm)
	Objective not screwed tightly	Tightening objective
The left and right images do not coincide when viewed with the binocular tube	Unadjusted pupil distance	Adjust interpupillary distance
	Unadjusted diopter	Adjust the diopter
The bulb doesn't work	Power supply not connected	Check whether the power switch is turned on, and whether the charger voltage is consistent with the voltage marked on the instrument
	Power plug is in poor contact with the socket	Check whether the connection between the plug and the socket is firm and reliable

Machine Translated by Google

Light flicker, Luminance instability	Bulb poor contact	Plug the bulb firmly
	Socket poor contact	Check that the socket connection is reliable

WARRANTY POLICY

8.**Warranty policy**

8.1 Warranty period

From the date of purchase, the company provides one-year warranty service for the host

8.2 Non-warranty policy

The following circumstances (but not limited to the following circumstances) are not covered by warranty and need to pay maintenance fees:

*The warranty period has expired.

*Damage caused by force majeure factor.

*Damage caused by human damage or improper use of customs declaration.

*Any damage caused by failure to use, maintain and adjust according to the instructions unauthorized personnel to dismantle, repair, modification, misuse, abuse, liquid intake, accidents, use of non-original parts caused by failure or damage, malicious damage to the warranty card content, tear,tamper, etc.

*Other failure and damage caused by problems other than the design, manufacturing and quality of the product itself.

8.3 Warranty card

Machine Translated by Google

Item Production Number			
Fault phenomenon			
Buying date			
Contact			
Contact address			
Remark：This form is a return copy of the warranty card. Please cut out this form and send it to the seller or manufacturer whose address is on the "back cover".			

The Company reserves the right to make certain improvements to the design as it deems necessary. Therefore, the instructions given in this manual may not fully reflect the detailed features of each product type currently available.

Machine Translated by Google

AFTER-SALES SERVICE

1. If the product you received has other problems such as usage problems, please feel free to contact us and reply to online customer service within 24 hours to serve you.
2. Our products support 90 days for no reason to return or exchange.
3. Wish you a happy online shopping.

CORRET DISPOSAL



This product is subject to the provision of European Directive 2012/19/EC. The symbol showing a wheelie bin crossed through indicates that the product requires separate refuse collection in the European Union. This applies to the product and all accessories marked with this symbol. Products marked as such may not be discarded with normal domestic waste, but must be taken to a collection point for recycling electrical and electronic devices.

Made In China

Machine Translated by Google

Machine Translated by Google

MICROSCOPE

MODEL: XSP-36 XSP-36TV

Machine Translated by Google

Machine Translated by Google

MODEL: XSP-36 XSP-36TV





Machine Translated by Google

INSTRUCTIONS

Thank you very much for choosing this product. Please read all of the instructions before using it. The information will help you achieve the best possible results.

SAFETY TIPS

1. This microscope only uses for micro observation. It can't be for other use, or the instrument will be damaged.
2. Apart from the detachable parts mentioned in this manual, it is strictly prohibited to disassemble any other parts. Otherwise, it may reduce the instrument's capability and can result in electric shock, injured, and damage to instruments. If you have any problems, please contact the nearest agent.
3. The input voltage is indicated on the plate behind the microscope. Make sure the input voltage is consistent with the output voltage of the charging adapter used. If not, do not use the microscope and contact the nearest agent. If using the wrong input voltage, it will cause electric appliance damage, which will damage the microscope.
4. Using improper light source accessories may lead to instrument damage or instruments fire disaster.
5. To prevent electric shock or fire, the power supply must be turned off before installing the microscope, replacing the light source accessories, and plugging or unplugging the power supply switch. To turn off the power switch, just need to flip the switch to "O".
6. To prevent short circuits or other failures, do not place the microscope in a humid area.

* If water is spilled on the microscope, immediately turn off the power switch (flip the switch to "O"), unplug the power cord and wipe off the water with a dry cloth.
* When unidentified objects enter or drip into the microscope, please stop use and contact the nearest sales agent.

Machine Translated by Google

7. When moving the stage, the rack of the stage will extend out. Please be careful not to hurt your hands or other body parts with the rack when operating the microscope.
8. This microscope is a precision optical instrument, if used or kept improperly, it will cause damage to the instrument or adversely affect its accuracy. When choosing a place to use, please consider the following conditions. Otherwise, it may cause the function decline of the instrument or malfunction.
* Avoid placing the microscope in direct sunlight, under indoor vertical lighting, and other bright fields.
* The room temperature of the use environment and place is 0° C - 40° C, and the maximum relative humidity is 85%, do not place the microscope in high temperature and high humidity places. Otherwise, the lens will fog or mold, which will damage the microscope, and shorten its service life.
* Impurities and dust will reduce the optical performance of the microscope, which should be avoided.
* Strong electromagnetic noise will interfere with the output signal of the microscope, so avoid approaching instruments and equipment that emit electromagnetic waves.
* Place the microscope on a sturdy table that can support the weight of the instrument and level it.
9. This microscope is a precision optical instrument, so be careful when carrying it. Heavy impact and rough operation can cause damage to instruments. Vibrating the objective lens will reduce the imaging accuracy.
10. Do not rotate the left and right focusing hand-wheel in opposite directions at the same time. When the stage has reached the limited position of movement, please do not continue to rotate the coarse tuning hand-wheel. These operations will cause damage to the focusing mechanism.
11. When oil immersion observation, only a small amount of oil is needed. To prevent excess oil from polluting the stage and condenser, degrading the performance of the instruments. When replacing the objective lens or ending the observation, the oil should be cleaned in time to avoid dirtying other lenses. It will be difficult to wipe out after the oil is dried.

Machine Translated by Google

TECHNISCHE PARAMETERS

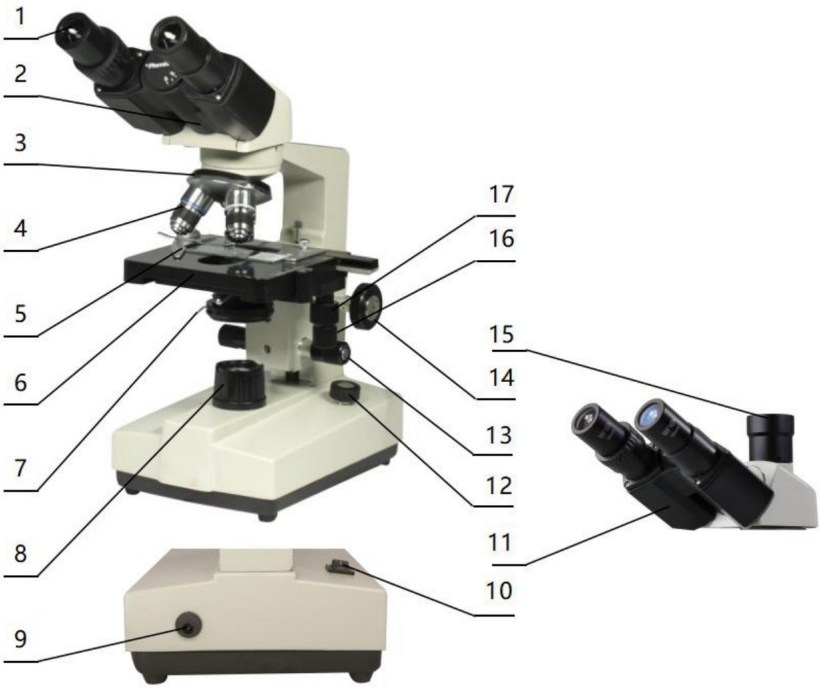
1. Technische specificatie

Voornaamst Parameter				
	Totaal Vergroting	40X~2500X (XSP-36) 40X~5000X (XSP-36TV)		
	Mechanische lengte	160mm geconjugeerde	Objectief afstand	185mm
Observatie	Scharnierende verrekijker	Bekijken, 30° Van plan	Interpupillaire afstand: 48~ 76mm	
	Scharnierende trinoculair	Bekijken: 30° Van plan	Interpupillaire afstand: 48~ 76mm	
Oculair	Breed veld: WF1 Ox/1 Bmm		Oculairaansluiting: 23,2 mm	
	Breed veld: WF25x/8mm			
	2x vergrotingslens (optioneel)			
Objectief	Vergroting		n.v.t.	
	4X Achromatische objectief		0.1	
	1 OX Achromatische objectief		0,25	
	40X(S) Achromatisch objectief		0,65	
	1 OOX(S, 0) Achromatisch objectief		1.25	
	Objectiefconnector: WJ 4/5"x1/36"			
Condensator	Abbé Condensator	NA: 1,25, Irisdiafragma, instelknop		
Scherpstelsysteembereik: 14 mm, Fijn bereik: 1,3 mm	Grof- en fijnafstemming zijn niet coaxiaal Grof			
Fase	Dubbellaags mechanisch podium Afmetingen: 115mmx125mm, Bewegingsbereik: 72mm*30mm			
Verlichting LED koud licht	Hoge helderheid bron	20mA/3,0V		
Licht bron	Invoer	Wisselstroom 100-240V		
	Uitvoer	DC 5V/1A		

Machine Translated by Google

PARTS LIST

2. Microscope Structure and Characteristics



1. Eyepiece: secondary magnifying of the specimen for observation
2. Binocular observer: observation of the specimen
3. Converter: select different objective lens (positioning with a sound)
4. Objective: primary magnifying of the specimen
5. Clips: fix the specimens
6. Stage: place the specimens
7. Condenser diaphragm lever: adjust the size of the condenser diaphragm hole
8. Collecting: gather light to illuminate the specimen
9. Power connector: connect external power
10. Power switch: the main power switch of the instrument

Machine Translated by Google

11. Trinocular observation: visual and video observation of specimens
12. Brightness adjustment rotary knob: adjust the brightness, so that the field of view is moderate
13. Fine adjustment hand-wheel: micro focusing
14. Coarse adjustment hand-wheel: focus the specimen
15. The third eyepiece: used for connecting extra accessories and CCD
16. X moving hand-wheel: adjust the lateral movement of the stage
17. Y moving hand-wheel: adjust the longitudinal movement of the stage

Machine Translated by Google

INSTALLATION AND USE

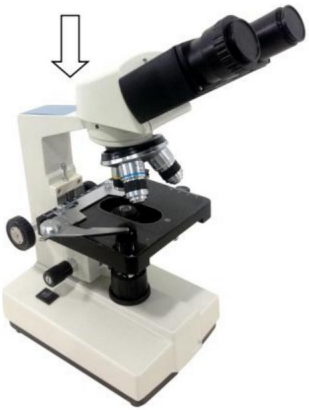
3.Instrument Installation

3.1 Place the microscope on a stable workbench. When moving the instrument, especially the optical parts, should avoid touching the lens' surface with your hands or objects with oil stains. Finger marks or oil stains on the surface of the lens will affect the imaging quality.

3.2 The platform surface is covered with a protective film during transportation. It should be torn off before using the microscope (see picture 1).



Picture 1



Picture 2

3.3 Place the observer gently in the mounting hole of the frame, gently press the upper part of the observation body with one hand and tighten the fixing screw on the head of the frame with the other hand. When installing, ensure that the observation head is in place and not loose (see picture 2).

3.4 After the microscope is installed, insert the DC plug to the power socket in the base and connect to the external power supply, under the situation of supply voltage is consistent with the rated voltage of the instrument.

3.5 Finally, insert the eyepiece into the microscope eyepiece tube.

Machine Translated by Google

OPERATION

4.Operation

4.1 Electric illumination

4.1.1 Turn on the power switch (flip the switch to "-") to make the bulb lighting.

4.1.2 Rotate the brightness adjustment knob to adjust the field of view brightness.

4.2 Install the specimen

4.2.1 Open the section holder gently with your finger, place the specimen in, cover the glass, release your finger and secure the section.

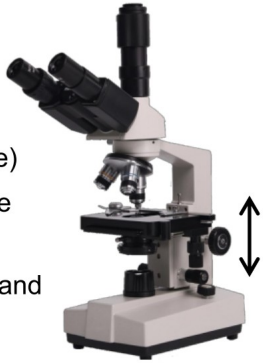
4.2.2 Adjust the platform moving hand-wheel and so that the observed area is directly under the objective lens, make sure it's easy to observation and adjustment.

4.3 Focus with 10X objective

* Rotate the objective converter to turn the 10X objective into the light path (the objective will be automatically snapped when rotate in the right place)

* Rotate the coarse adjustable hand wheel Move the stage to the highest position (see picture 3).

*Observe through the eyepiece, rotate the coarse hand wheel slowly to lower down the stage. Stop rotating when the image appears (see picture 3).



Picture 3

4.4 Rotate the fine hand wheel for precise focusing.

*When you want to observe with a high-magnification objective, first use the 10X or the 4X objective to focus, then replace the high-magnification objective and rotate the fine hand wheel for precise focusing.

*Confirm the direction of rotation when rotating the coarse hand wheel for focusing, can only lower the direction of the stage.

*When using coarse adjustable hand wheels to raise the stage, pay attention to the distance between the specimen surface and the lower-end

Machine Translated by Google

face of the objective.

*Since the working distance is farther for the 10X and 4X objectives, as long as it is used the standard thickness of the slide and cover glass (the standard thickness of the slide and cover glass is 1.2mm and 0.17mm, respectively), even if the stage is moved to the highest position, the objective lens will not touch the specimen.

4.5 Select Objective

Rotate objective Converter. Select the desired objective magnification (the objective can be automatically snapped when rotated in the right place)

4.6 Adjust the diaphragm adjusting knob makes the aperture diaphragm meet the observation requirements (see picture 4).

4.7 After the observation is finished, turn off the power switch.



Diaphragm adjusting knob

Picture 4

Machine Translated by Google

5 Installation and use of accessories (optional)

5.1 Installed external CCD camera accessories

ATTENTION:

For the parameters and usage of the CCD camera and digital viewer, please refer to the instruction manual contained in the CDROM supplied with the CCD camera or digital viewer.

Trinocular observation viewer:

Take out the CCD camera, screw the lens end on the additional connector, insert the interface into the third eyepiece. Use the provided hex hook wrench to hold the screw fixing the additional connector tight, use the provided USB cable to connect the video output end of the CCD camera and the video input end of the computer. Plug in the microscope power plug, turn on the microscope and the computer switch. According to the focusing method described in the operation manual, adjust the image clearly adjust the adjustable viewing tube on the additional connector until a clear image appears on the computer screen, video observation is available (see picture 5).

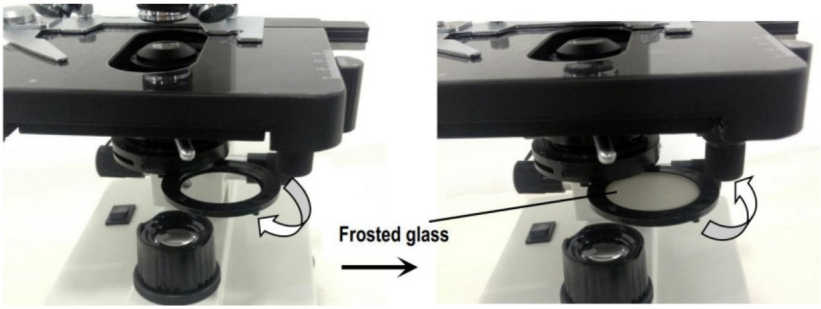


Picture 5

Machine Translated by Google

5.2 The installation of frosted glass

When using the LED lighting, it is necessary to add frosted glass, first turn out the ground glass bracket, put the frosted glass smoothly into the bracket slot, and then turn the frosted glass bracket back to the original position (see picture 6).



Picture 6

ATTENTION

When you observe with 4x objective lens, it is necessary to install frosted glass, and it is also recommended try to use frosted glass to ensure uniform lighting when it is observed with 10X.

Machine Translated by Google

6. Maintenance

6.1 When the microscope is finished observing or suspended, cut off the power supply to avoid the electrical components in the instrument are still in the working state. When not used for a long time, the power plug should be removed from the power socket and all transmission wires should be properly kept.

6.2 Clean lens: Use a blow ball or a soft brush to wipe the dust off the lens. Heavy dirt and fingerprints can be gently wiped by lens paper or soft cloth dipped in a little alcohol and ether mixture (the mixture of the two is about 20 to 30% alcohol, 70 to 80% ether).

6.3 Clean instrument surface: Can be wiped with a clean soft cloth; Heavy dirt can be scrubbed with a neutral cleaner.

> ⚠ ATTENTION
>
> Do not use organic solvents (such as alcohol, ether and its diluent,etc.) to wipe, so as to avoid paint off the surface of the instrument.

6.4 Storage: if you do not use the microscope for a long time, please turn off the power supply of the instrument, fully cool the bulb, put the dust-proof cover on the microscope, and put it in the packing box. Store in a dry, ventilated, clean and acid-alkali vapor-free place to avoid mold.

Machine Translated by Google

7. Troubleshooting schedule

Common fault	Reasons	Solutions
The field of view is blurred or the brightness of the field of view is uneven, and the complete field of view cannot be seen.	The converter is not positioned correctly (the objective is not coaxial with the optical path)	Rotate the objective converter until accurate positioning (moving the objective into the light path correctly)
	The condenser is not centered	Adjust the center of the condenser
	Light bulb was installed incorrectly	Check that the bulb is inserted correctly
	Stains or dust on a condenser, objective, collector, eyepiece, or specimen	Wipe relevant parts
	The aperture is too small	Proper adjusting the diaphragm
The field of view is unclean	Lens surface is not clean	Proper cleaning
	The surface of the slide is not clean	Wipe clean
Lack of clarity Poor imaging	Specimen slide is not covered with glass	Attach cover glass
	Cover glass is too thick or too thin	Use a cover glass of standard thickness (0.17mm)
	The specimen is upside down	Flip the slide so that the cover slide is up
	Oil on the dry objective	Wipe clean

Machine Translated by Google

	Lens surface is not clean (objective/eyepiece/condenser/collector)	Wipe clean
	Aperture is too small	Proper adjusting the diaphragm
Unilateral darkening	Objective converter is not positioned correctly	Rotate the objective converter until accurate positioning
	Specimen is higher than the stage	Specimens should be firmly clamped to the platform clips
Unable to focus when using a high-power objective	Slide upside down	Flip the slide so that the cover slide is up
	Cover glass is too thick	Use specified cover glass (thickness 0.17mm)
	Objective not screwed tightly	Tightening objective
The left and right images do not coincide when viewed with the binocular tube	Unadjusted pupil distance	Adjust interpupillary distance
	Unadjusted diopter	Adjust the diopter
The bulb doesn't work	Power supply not connected	Check whether the power switch is turned on, and whether the charger voltage is consistent with the voltage marked on the instrument
	Power plug is in poor contact with the socket	Check whether the connection between the plug and the socket is firm and reliable

Machine Translated by Google

Light flicker, Luminance instability	Bulb poor contact	Plug the bulb firmly
	Socket poor contact	Check that the socket connection is reliable

WARRANTY POLICY

8.**Warranty policy**

8.1 Warranty period

From the date of purchase, the company provides one-year warranty service for the host

8.2 Non-warranty policy

The following circumstances (but not limited to the following circumstances) are not covered by warranty and need to pay maintenance fees:

*The warranty period has expired.

*Damage caused by force majeure factor.

*Damage caused by human damage or improper use of customs declaration.

*Any damage caused by failure to use, maintain and adjust according to the instructions unauthorized personnel to dismantle, repair, modification, misuse, abuse, liquid intake, accidents, use of non-original parts caused by failure or damage, malicious damage to the warranty card content, tear,tamper, etc.

*Other failure and damage caused by problems other than the design, manufacturing and quality of the product itself.

8.3 Warranty card

Machine Translated by Google

Item Production Number			
Fault phenomenon			
Buying date			
Contact			
Contact address			
Remark：This form is a return copy of the warranty card. Please cut out this form and send it to the seller or manufacturer whose address is on the "back cover".			

The Company reserves the right to make certain improvements to the design as it deems necessary. Therefore, the instructions given in this manual may not fully reflect the detailed features of each product type currently available.

Machine Translated by Google

AFTER-SALES SERVICE

1. If the product you received has other problems such as usage problems, please feel free to contact us and reply to online customer service within 24 hours to serve you.
2. Our products support 90 days for no reason to return or exchange.
3. Wish you a happy online shopping.

CORRET DISPOSAL



This product is subject to the provision of European Directive 2012/19/EC. The symbol showing a wheelie bin crossed through indicates that the product requires separate refuse collection in the European Union. This applies to the product and all accessories marked with this symbol. Products marked as such may not be discarded with normal domestic waste, but must be taken to a collection point for recycling electrical and electronic devices.

Made In China

Machine Translated by Google

Machine Translated by Google

MICROSCOPE

MODEL: XSP-36 XSP-36TV

Machine Translated by Google

Machine Translated by Google

MODEL: XSP-30 XSP-30TV





Machine Translated by Google

INSTRUCTIONS

Thank you very much for choosing this product. Please read all of the instructions before using it. The information will help you achieve the best possible results.

SAFETY TIPS

1. This microscope only uses for micro observation. It can't be for other use, or the instrument will be damaged.
2. Apart from the detachable parts mentioned in this manual, it is strictly prohibited to disassemble any other parts. Otherwise, it may reduce the instrument's capability and can result in electric shock, injured, and damage to instruments. If you have any problems, please contact the nearest agent.
3. The input voltage is indicated on the plate behind the microscope. Make sure the input voltage is consistent with the output voltage of the charging adapter used. If not, do not use the microscope and contact the nearest agent. If using the wrong input voltage, it will cause electric appliance damage, which will damage the microscope.
4. Using improper light source accessories may lead to instrument damage or instruments fire disaster.
5. To prevent electric shock or fire, the power supply must be turned off before installing the microscope, replacing the light source accessories, and plugging or unplugging the power supply switch. To turn off the power switch, just need to flip the switch to "O".
6. To prevent short circuits or other failures, do not place the microscope in a humid area.

* If water is spilled on the microscope, immediately turn off the power switch (flip the switch to "O"), unplug the power cord and wipe off the water with a dry cloth.
* When unidentified objects enter or drip into the microscope, please stop use and contact the nearest sales agent.

Machine Translated by Google

7. When moving the stage, the rack of the stage will extend out. Please be careful not to hurt your hands or other body parts with the rack when operating the microscope.
8. This microscope is a precision optical instrument, if used or kept improperly, it will cause damage to the instrument or adversely affect its accuracy. When choosing a place to use, please consider the following conditions. Otherwise, it may cause the function decline of the instrument or malfunction.
* Avoid placing the microscope in direct sunlight, under indoor vertical lighting, and other bright fields.
* The room temperature of the use environment and place is 0° C - 40° C, and the maximum relative humidity is 85%, do not place the microscope in high temperature and high humidity places. Otherwise, the lens will fog or mold, which will damage the microscope, and shorten its service life.
* Impurities and dust will reduce the optical performance of the microscope, which should be avoided.
* Strong electromagnetic noise will interfere with the output signal of the microscope, so avoid approaching instruments and equipment that emit electromagnetic waves.
* Place the microscope on a sturdy table that can support the weight of the instrument and level it.
9. This microscope is a precision optical instrument, so be careful when carrying it. Heavy impact and rough operation can cause damage to instruments. Vibrating the objective lens will reduce the imaging accuracy.
10. Do not rotate the left and right focusing hand-wheel in opposite directions at the same time. When the stage has reached the limited position of movement, please do not continue to rotate the coarse tuning hand-wheel. These operations will cause damage to the focusing mechanism.
11. When oil immersion observation, only a small amount of oil is needed. To prevent excess oil from polluting the stage and condenser, degrading the performance of the instruments. When replacing the objective lens or ending the observation, the oil should be cleaned in time to avoid dirtying other lenses. It will be difficult to wipe out after the oil is dried.

Machine Translated by Google

TEKNISKA PARAMETRAR

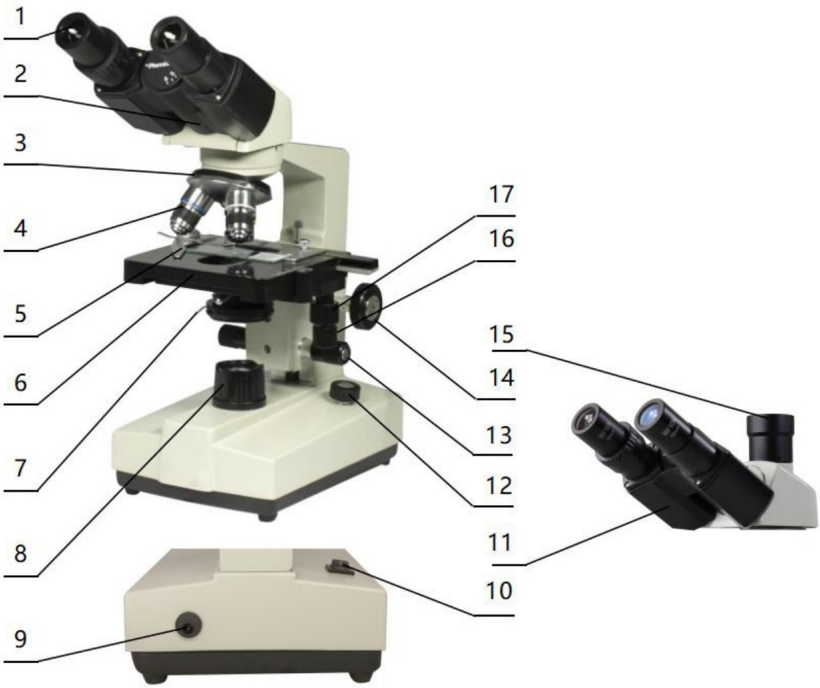
1. Teknisk specifikation

Main Parameter	Total Förstoring	40X~2500X (XSP-36) 40X~5000X (XSP-36TV)		
	Mekanisk längd	160 mm konjugatavstånd	Objektivt	185 mm
Observation	Gångjärnskikare	Visar, 30° Lutande	Avstånd mellan pupillerna: 48~76 mm	
	Gångjärnsförsedd trinokulär	Visning: 30° Lutande	Avstånd mellan pupillerna: 48~76 mm	
Okular	Brett fält: WF1 Ox/1 Bmm		Okularkontakt: 23,2 mm	
	Brett fält: WF25x/8mm			
	2X förstoringslins (valfritt)			
Mål	Förstoring		NA	
	4X akromatisk objektiv		0,1	
	1 OX Akromatisk objektiv		0,25	
	40X(S) akromatisk objektiv		0,65	
	1 OOX(S, 0) Akromatiskt objektiv		1,25	
	Objektivkontakt: WJ 4/5"x1/36"			
Kondensor	Abbe Kondensor	NA: 1,25, Irisbländare, justeringsratt		
Fokuseringssystem	Grov- och finjustering är inte koaxiellt. Grovt område: 14 mm, Fint område: 1,3 mm			
Etapp	Dubbla lager mekaniskt steg Storlek: 115mmx125mm, Rörelseområde: 72mm*30mm			
Belysning LED kallt ljus	Hög ljusstyrka källa	20mA/3,0V		
Ljus källa	Input	AC100-240V		
	Produktion	DC 5V/1A		

Machine Translated by Google

PARTS LIST

2. Microscope Structure and Characteristics



1. Eyepiece: secondary magnifying of the specimen for observation
2. Binocular observer: observation of the specimen
3. Converter: select different objective lens (positioning with a sound)
4. Objective: primary magnifying of the specimen
5. Clips: fix the specimens
6. Stage: place the specimens
7. Condenser diaphragm lever: adjust the size of the condenser diaphragm hole
8. Collecting: gather light to illuminate the specimen
9. Power connector: connect external power
10. Power switch: the main power switch of the instrument

Machine Translated by Google

11. Trinocular observation: visual and video observation of specimens
12. Brightness adjustment rotary knob: adjust the brightness, so that the field of view is moderate
13. Fine adjustment hand-wheel: micro focusing
14. Coarse adjustment hand-wheel: focus the specimen
15. The third eyepiece: used for connecting extra accessories and CCD
16. X moving hand-wheel: adjust the lateral movement of the stage
17. Y moving hand-wheel: adjust the longitudinal movement of the stage

Machine Translated by Google

INSTALLATION AND USE

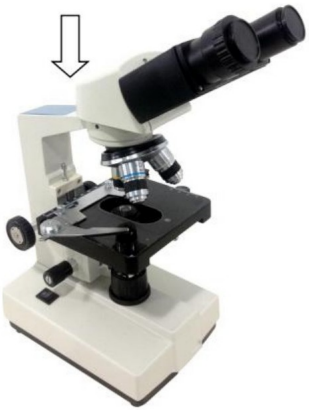
3.Instrument Installation

3.1 Place the microscope on a stable workbench. When moving the instrument, especially the optical parts, should avoid touching the lens' surface with your hands or objects with oil stains. Finger marks or oil stains on the surface of the lens will affect the imaging quality.

3.2 The platform surface is covered with a protective film during transportation. It should be torn off before using the microscope (see picture 1).



Picture 1



Picture 2

3.3 Place the observer gently in the mounting hole of the frame, gently press the upper part of the observation body with one hand and tighten the fixing screw on the head of the frame with the other hand. When installing, ensure that the observation head is in place and not loose (see picture 2).

3.4 After the microscope is installed, insert the DC plug to the power socket in the base and connect to the external power supply, under the situation of supply voltage is consistent with the rated voltage of the instrument.

3.5 Finally, insert the eyepiece into the microscope eyepiece tube.

Machine Translated by Google

OPERATION

4.Operation

4.1 Electric illumination

4.1.1 Turn on the power switch (flip the switch to "-") to make the bulb lighting.

4.1.2 Rotate the brightness adjustment knob to adjust the field of view brightness.

4.2 Install the specimen

4.2.1 Open the section holder gently with your finger, place the specimen in, cover the glass, release your finger and secure the section.

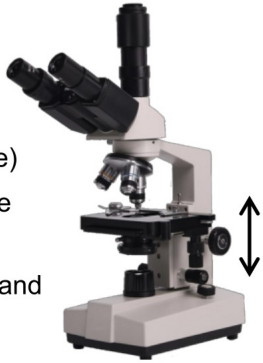
4.2.2 Adjust the platform moving hand-wheel and so that the observed area is directly under the objective lens, make sure it's easy to observation and adjustment.

4.3 Focus with 10X objective

* Rotate the objective converter to turn the 10X objective into the light path (the objective will be automatically snapped when rotate in the right place)

* Rotate the coarse adjustable hand wheel Move the stage to the highest position (see picture 3).

*Observe through the eyepiece, rotate the coarse hand wheel slowly to lower down the stage. Stop rotating when the image appears (see picture 3).



Picture 3

4.4 Rotate the fine hand wheel for precise focusing.

*When you want to observe with a high-magnification objective, first use the 10X or the 4X objective to focus, then replace the high-magnification objective and rotate the fine hand wheel for precise focusing.

*Confirm the direction of rotation when rotating the coarse hand wheel for focusing, can only lower the direction of the stage.

*When using coarse adjustable hand wheels to raise the stage, pay attention to the distance between the specimen surface and the lower-end

Machine Translated by Google

face of the objective.

*Since the working distance is farther for the 10X and 4X objectives, as long as it is used the standard thickness of the slide and cover glass (the standard thickness of the slide and cover glass is 1.2mm and 0.17mm, respectively), even if the stage is moved to the highest position, the objective lens will not touch the specimen.

4.5 Select Objective

Rotate objective Converter. Select the desired objective magnification (the objective can be automatically snapped when rotated in the right place)

4.6 Adjust the diaphragm adjusting knob makes the aperture diaphragm meet the observation requirements (see picture 4).

4.7 After the observation is finished, turn off the power switch.



Diaphragm adjusting knob

Picture 4

Machine Translated by Google

5 Installation and use of accessories (optional)

5.1 Installed external CCD camera accessories

ATTENTION:

For the parameters and usage of the CCD camera and digital viewer, please refer to the instruction manual contained in the CDROM supplied with the CCD camera or digital viewer.

Trinocular observation viewer:

Take out the CCD camera, screw the lens end on the additional connector, insert the interface into the third eyepiece. Use the provided hex hook wrench to hold the screw fixing the additional connector tight, use the provided USB cable to connect the video output end of the CCD camera and the video input end of the computer. Plug in the microscope power plug, turn on the microscope and the computer switch. According to the focusing method described in the operation manual, adjust the image clearly adjust the adjustable viewing tube on the additional connector until a clear image appears on the computer screen, video observation is available (see picture 5).

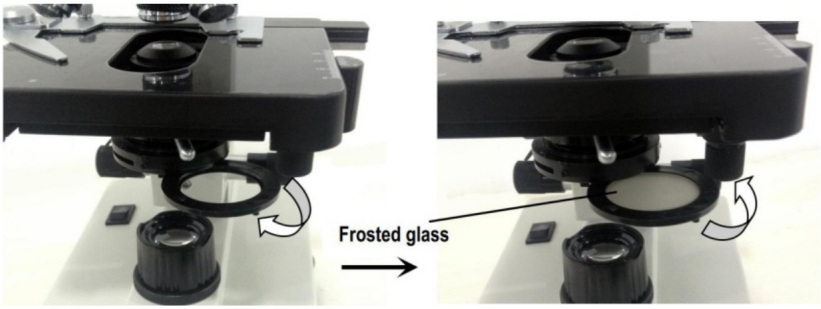


Picture 5

Machine Translated by Google

5.2 The installation of frosted glass

When using the LED lighting, it is necessary to add frosted glass, first turn out the ground glass bracket, put the frosted glass smoothly into the bracket slot, and then turn the frosted glass bracket back to the original position (see picture 6).



Picture 6

ATTENTION

When you observe with 4x objective lens, it is necessary to install frosted glass, and it is also recommended try to use frosted glass to ensure uniform lighting when it is observed with 10X.

Machine Translated by Google

6. Maintenance

6.1 When the microscope is finished observing or suspended, cut off the power supply to avoid the electrical components in the instrument are still in the working state. When not used for a long time, the power plug should be removed from the power socket and all transmission wires should be properly kept.

6.2 Clean lens: Use a blow ball or a soft brush to wipe the dust off the lens. Heavy dirt and fingerprints can be gently wiped by lens paper or soft cloth dipped in a little alcohol and ether mixture (the mixture of the two is about 20 to 30% alcohol, 70 to 80% ether).

6.3 Clean instrument surface: Can be wiped with a clean soft cloth; Heavy dirt can be scrubbed with a neutral cleaner.

> ⚠ ATTENTION
>
> Do not use organic solvents (such as alcohol, ether and its diluent,etc.) to wipe, so as to avoid paint off the surface of the instrument.

6.4 Storage: if you do not use the microscope for a long time, please turn off the power supply of the instrument, fully cool the bulb, put the dust-proof cover on the microscope, and put it in the packing box. Store in a dry, ventilated, clean and acid-alkali vapor-free place to avoid mold.

Machine Translated by Google

7. Troubleshooting schedule

Common fault	Reasons	Solutions
The field of view is blurred or the brightness of the field of view is uneven, and the complete field of view cannot be seen.	The converter is not positioned correctly (the objective is not coaxial with the optical path)	Rotate the objective converter until accurate positioning (moving the objective into the light path correctly)
	The condenser is not centered	Adjust the center of the condenser
	Light bulb was installed incorrectly	Check that the bulb is inserted correctly
	Stains or dust on a condenser, objective, collector, eyepiece, or specimen	Wipe relevant parts
	The aperture is too small	Proper adjusting the diaphragm
The field of view is unclean	Lens surface is not clean	Proper cleaning
	The surface of the slide is not clean	Wipe clean
Lack of clarity Poor imaging	Specimen slide is not covered with glass	Attach cover glass
	Cover glass is too thick or too thin	Use a cover glass of standard thickness (0.17mm)
	The specimen is upside down	Flip the slide so that the cover slide is up
	Oil on the dry objective	Wipe clean

Machine Translated by Google

	Lens surface is not clean (objective/eyepiece/condenser/collector)	Wipe clean
	Aperture is too small	Proper adjusting the diaphragm
Unilateral darkening	Objective converter is not positioned correctly	Rotate the objective converter until accurate positioning
	Specimen is higher than the stage	Specimens should be firmly clamped to the platform clips
Unable to focus when using a high-power objective	Slide upside down	Flip the slide so that the cover slide is up
	Cover glass is too thick	Use specified cover glass (thickness 0.17mm)
	Objective not screwed tightly	Tightening objective
The left and right images do not coincide when viewed with the binocular tube	Unadjusted pupil distance	Adjust interpupillary distance
	Unadjusted diopter	Adjust the diopter
The bulb doesn't work	Power supply not connected	Check whether the power switch is turned on, and whether the charger voltage is consistent with the voltage marked on the instrument
	Power plug is in poor contact with the socket	Check whether the connection between the plug and the socket is firm and reliable

Machine Translated by Google

Light flicker, Luminance instability	Bulb poor contact	Plug the bulb firmly
	Socket poor contact	Check that the socket connection is reliable

WARRANTY POLICY

8.**Warranty policy**

8.1 Warranty period

From the date of purchase, the company provides one-year warranty service for the host

8.2 Non-warranty policy

The following circumstances (but not limited to the following circumstances) are not covered by warranty and need to pay maintenance fees:

*The warranty period has expired.

*Damage caused by force majeure factor.

*Damage caused by human damage or improper use of customs declaration.

*Any damage caused by failure to use, maintain and adjust according to the instructions unauthorized personnel to dismantle, repair, modification, misuse, abuse, liquid intake, accidents, use of non-original parts caused by failure or damage, malicious damage to the warranty card content, tear,tamper, etc.

*Other failure and damage caused by problems other than the design, manufacturing and quality of the product itself.

8.3 Warranty card

Machine Translated by Google

Item Production Number			
Fault phenomenon			
Buying date			
Contact			
Contact address			
Remark：This form is a return copy of the warranty card. Please cut out this form and send it to the seller or manufacturer whose address is on the "back cover".			

The Company reserves the right to make certain improvements to the design as it deems necessary. Therefore, the instructions given in this manual may not fully reflect the detailed features of each product type currently available.

Machine Translated by Google

AFTER-SALES SERVICE

1. If the product you received has other problems such as usage problems, please feel free to contact us and reply to online customer service within 24 hours to serve you.
2. Our products support 90 days for no reason to return or exchange.
3. Wish you a happy online shopping.

CORRET DISPOSAL



This product is subject to the provision of European Directive 2012/19/EC. The symbol showing a wheelie bin crossed through indicates that the product requires separate refuse collection in the European Union. This applies to the product and all accessories marked with this symbol. Products marked as such may not be discarded with normal domestic waste, but must be taken to a collection point for recycling electrical and electronic devices.

Made In China

Machine Translated by Google