

Kaisi[®] 系列 体视显微镜 说明书

STEREO MICROSCOPE kaisi SERIES INSTRUCTIONS

本说明书详细阐述了kaisi 系列体视显微镜的使用方法、故障排除及维护与保养等说明。请在使用前仔细阅读本说明，并将其随附仪器保存好方便以后参阅。

This instruction manual is for the Stereo Microscope kaisi series. To ensure the safety and obtain optimum performance and familiarize yourself fully with the use of this microscope, we recommend that you read this manual thoroughly before operating the microscope. Retain this instruction manual in an easily accessible place near the microscope for further reference.

1 注意事项

1-1 操作

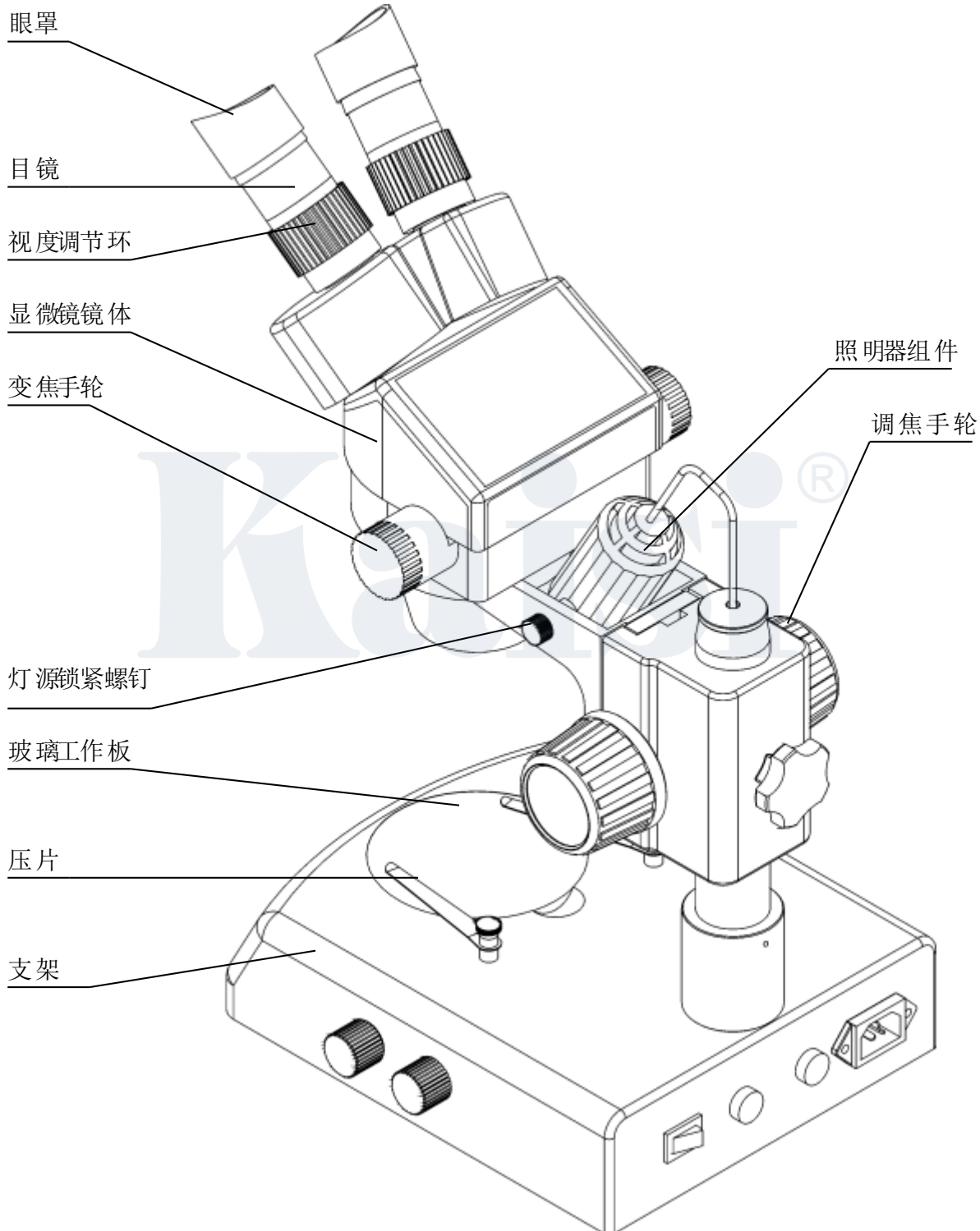
- (一) 不应让部件直接暴露在阳光下，应放置在干燥、清洁的环境中，避免高温和剧烈振动。
- (二) 显微镜是精密仪器，应小心轻放，在运输过程中避免冲击和碰撞。
- (三) 为了不影响像的清晰度，避免污物或手指印留在镜片表面。
- (四) 不能用相反方向转动左右变焦手轮，否则会发生故障。
- (五) 从大型摄影机上取出胶片时，应用单手扶住摄影机，以免它倾倒。

1-2 维护和保养

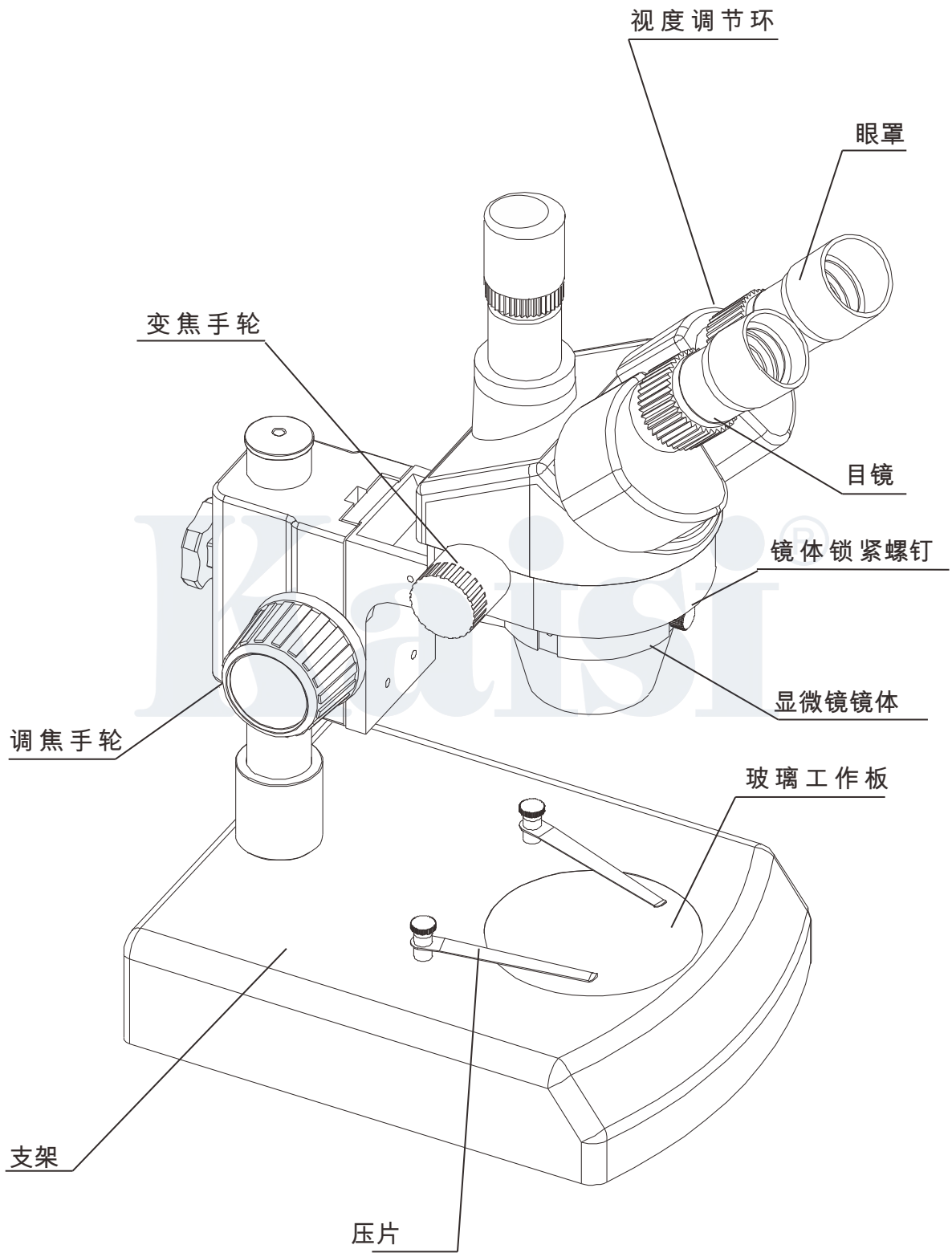
- (一) 所有的镜片都应保持清洁。若有细小灰尘，可用吹气球吹去或棉纱轻轻抹去；若有油迹和手指印，可用蘸有少量比例为3:7的乙醇乙醚混合液的棉纱轻轻抹去。
- (二) 不能用有机溶剂去擦拭显微镜的其余表面，特别是塑料制品的表面，应用中性洗涤剂进行清洁。
- (三) 不应自行拆装显微镜，以免使显微镜性能受到影响。
- (四) 显微镜不使用时，应用防尘罩盖好，使之不与灰尘接触，并贮藏在隔绝湿气的地方，以免生锈或发霉。
- (五) 为保持显微镜的性能，建议进行定期检查。
(详情可与就近的代理商联系)。

2 各零部件名称

2-1 2040/7045

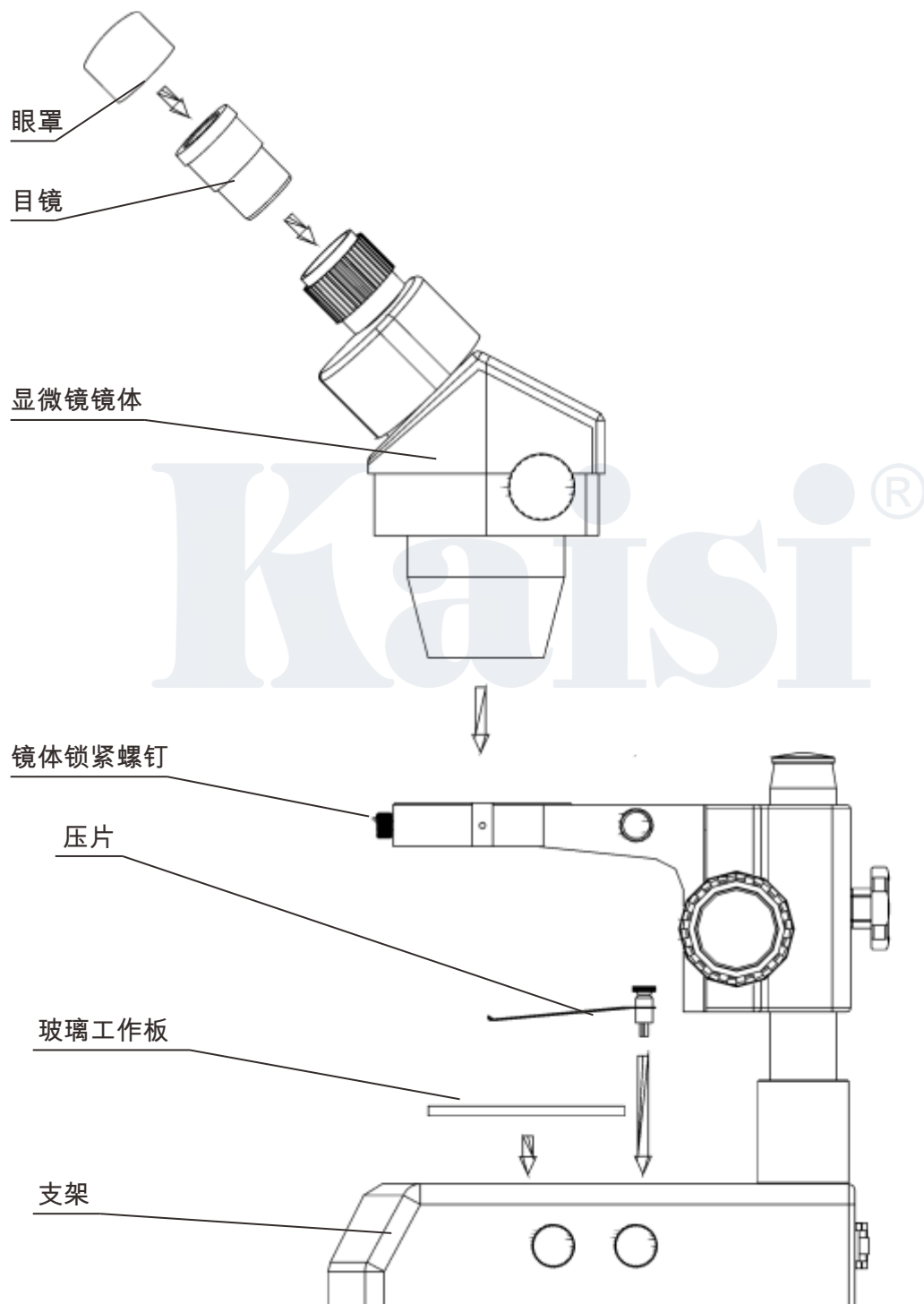


2-2 37045

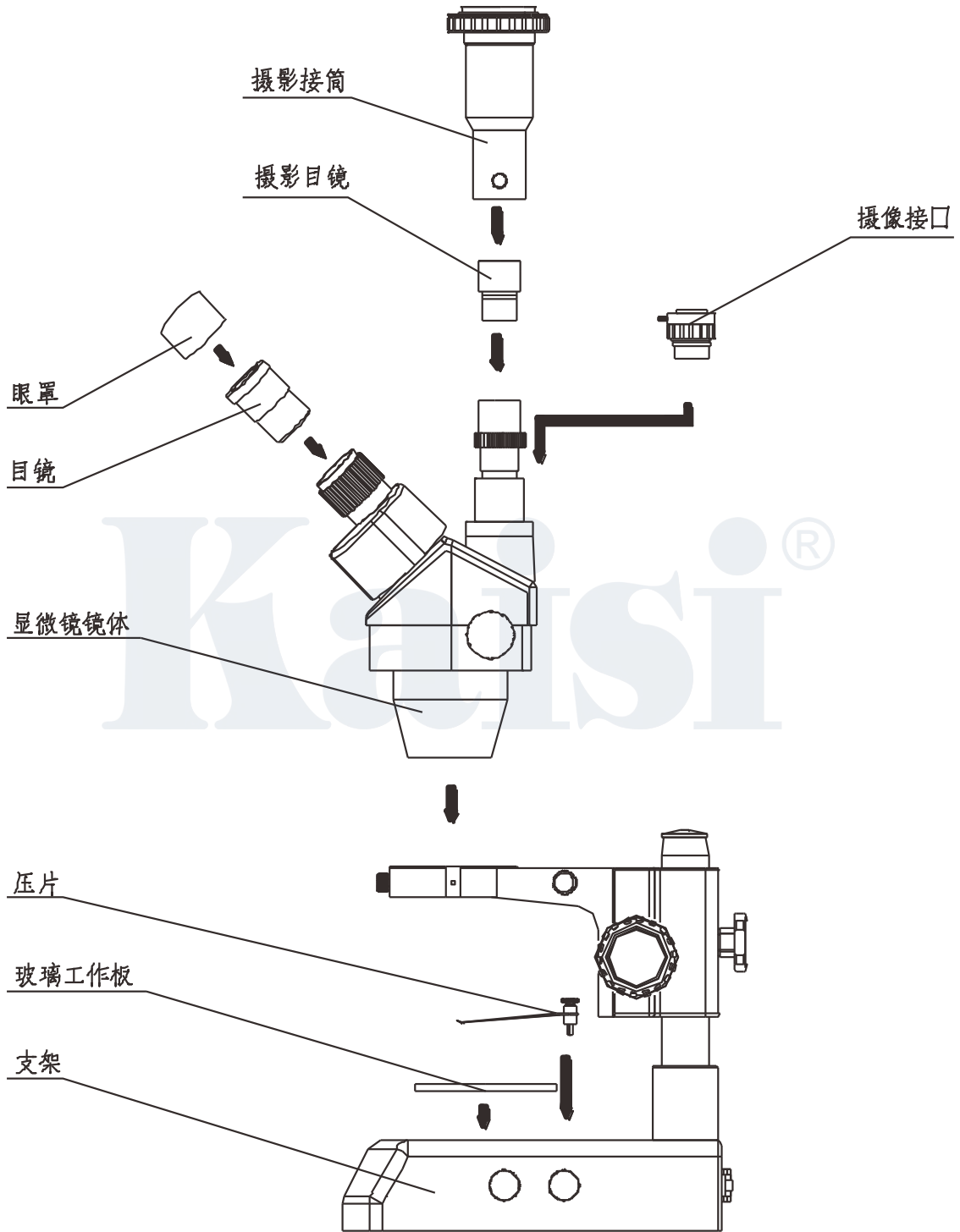


3 各零部件的安装

3-1 2040/7045



3-2 37045



4 操作

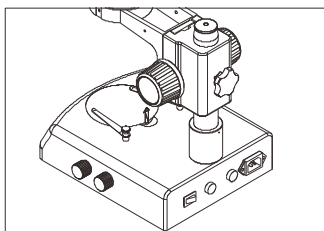


图1

4-1 玻璃工作板的使用

(一) 可用手指指尖从凹处直接将工作板掀起(如图1)。

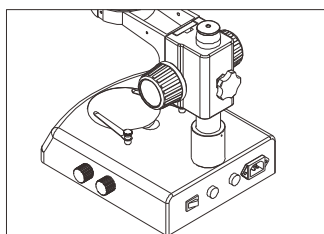


图2

4-2 调焦机构松紧度的调节

(一) 要调节调焦机构的松紧度,可用手握住其中一只手轮,通过旋转另一只手轮来达到。松紧依赖于手轮的旋转方向:顺时针方向旋紧,逆时针方向松开。(如图2)

(二) 将调焦机构的松紧度调整合适,可以防止显微镜镜体在观察过程中随托架自行下滑,也使调焦比较舒适。

4-3 标本的放置

(一) 把标本放置在玻璃工作板的中间如果有必要用压片压住标本。

(二) 用照明器照亮标本。

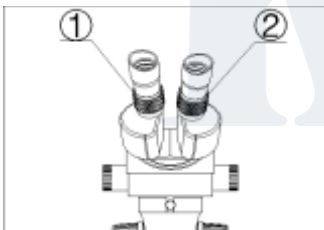


图3

4-4 视度调节及调焦

(一) 旋转变焦手轮到最大倍率。

(二) 旋转视度调节环到0刻线位置。

(三) 通过右边的目镜观察,如果像不清晰,旋转调焦手轮使标本像清晰。

(四) 旋转变焦手轮到最小倍率。

(五) 通过右边的目镜观察,如果像不清晰,旋转右视度调节环②使标本清晰(如图3)。

(六) 再旋转变焦手轮到最大倍率。通过右边的目镜观察,如果像不清晰,可重复以上3到5步骤,这可使视度调节更精确。

(七) 旋转变焦手轮到最小倍率。通过左边的目镜观察,如果像不清晰,旋转左视度调节环①使像清晰(如图3)。

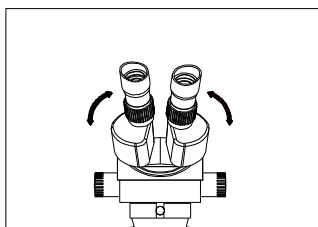


图4

4-5 瞳距的调节

用手握住左右棱镜箱，按图4箭头所示方向，转动左右棱镜箱，直到双目观察感到舒适为止。

4-6 目镜罩的使用

- (一) 对于不带眼镜的人，应用手握住视度调节环，使其不发生转动。通过旋转目镜，使目镜罩能与观察者的眼部较好的贴合。
- (二) 对于带镜的人眼，可将目镜罩取下再进行观察。

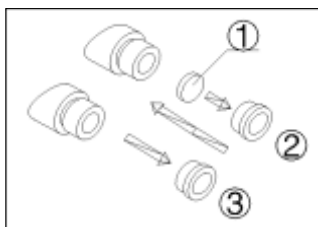


图5

4-7 安装和拆卸分划板

- (一) 从目镜上旋下压圈（如图）。
- (二) 清洁分划板①。将分划板有刻线的一面朝下装进压圈
- (三) 将带有分划板的压圈再旋进②目镜，直到旋紧为止。
- (四) 要拆卸分划板时，从目镜上旋下③压圈，取出分划板，用干净的纸包裹后保存。

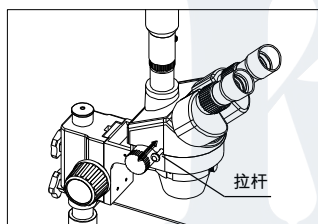


图6

4-8 选择光路

利用拉杆向里向外的移动，实现双目观察与摄影摄像的切换。拉杆向外移动，可进行摄影摄像；反之，拉杆向里移动，可进行双目观察。无论选择何种光路，必须使拉杆移动到底为止。

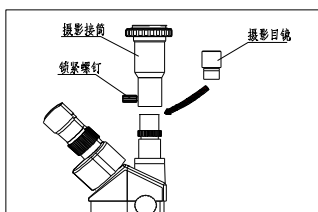


图7

4-9 装配摄影接筒和摄影目镜

- (一) 把摄影目镜插入三通头目镜座中。
- (二) 把摄影接筒罩在三通头目镜座上，然后旋紧锁紧螺钉。

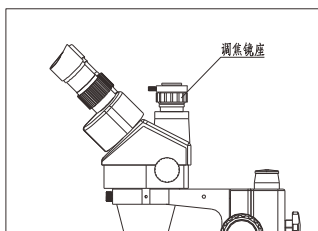
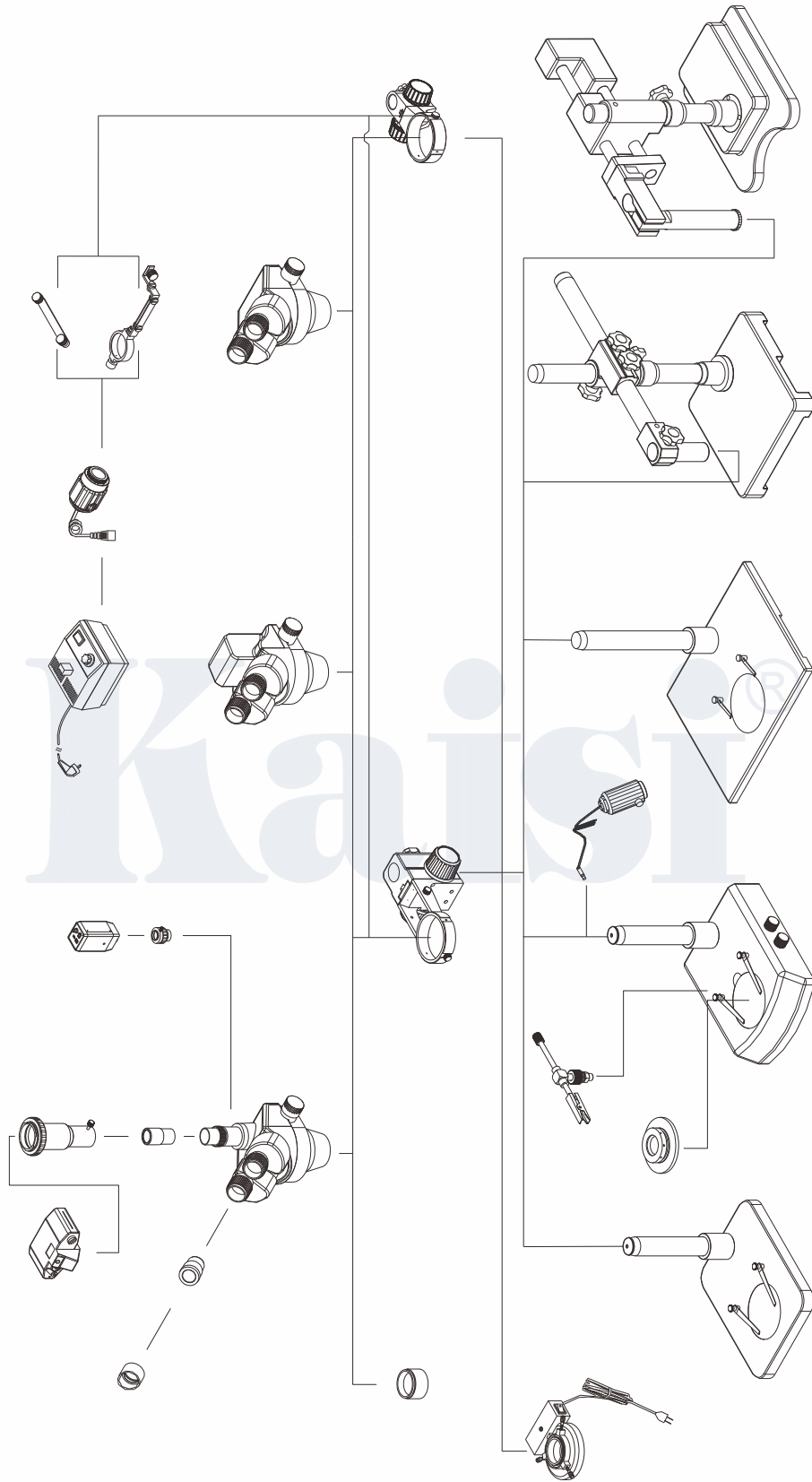


图8

4-10 CTV位置的调节

- (一) 通过旋转调焦镜座可以对CTV进行调焦，使CTV到需要的位置。
- (二) 注：一般上下调节1~2mm即可。（如图8）



Kaisi® 系列配置图

7 故障处理

如果由于使用不熟悉，而使显微镜性能不能充分发挥，那么下表可以为你提供一些解决办法。

问 题	原 因	解 决 办 法
1、双像不重合	瞳距调节不正确	修正瞳距
	视度调节不正确	重新进行视度调整
	左、右目镜倍率不同	安装相同的目镜
2、视场内有脏东西	标本上有脏物	清洁标本
	目镜表面有脏物	清洁目镜
3、像不清晰	物镜表面有脏物	清洁物镜
4、变焦时像不清晰	视度调整不正确	重新进行视度调节
	调焦不正确	重新进行调焦
5、调焦手轮不灵活	调焦手轮锁得太紧	适当放松
6、在观察过程中，显微镜镜体自行下降，使像不清晰	调焦手轮太松	适当锁紧
7、观察目镜或摄影摄像的视场内有切割	拉杆移动未到位	将拉杆移动到位
8、当变焦时，视频监视器上图像不清晰	摄像焦深调节不当	利用摄像接筒上的调焦环重新进行摄像焦深调节
9、眼睛很容易疲劳	视度没有调节正确	正确调节视度
	照明亮度不合适	调整调光旋钮
10、开关接通时灯泡不亮	无电源	检查电源线的连接
	灯泡未插入	正确地插入
	灯泡坏了	更换
11、灯泡突然烧坏	使用了非指定的灯泡	用指定灯泡更换
	电压过高	控制电压（如使用稳压器）
12、照明亮度不够	使用了非指定的灯泡	用指定灯泡更换
	电压太低	增加电压
13、灯泡闪烁或不稳定	灯泡快要坏了	更换
	灯泡安装不稳定	检查并稳固地插入

1 Before use

1-1 NOTICE

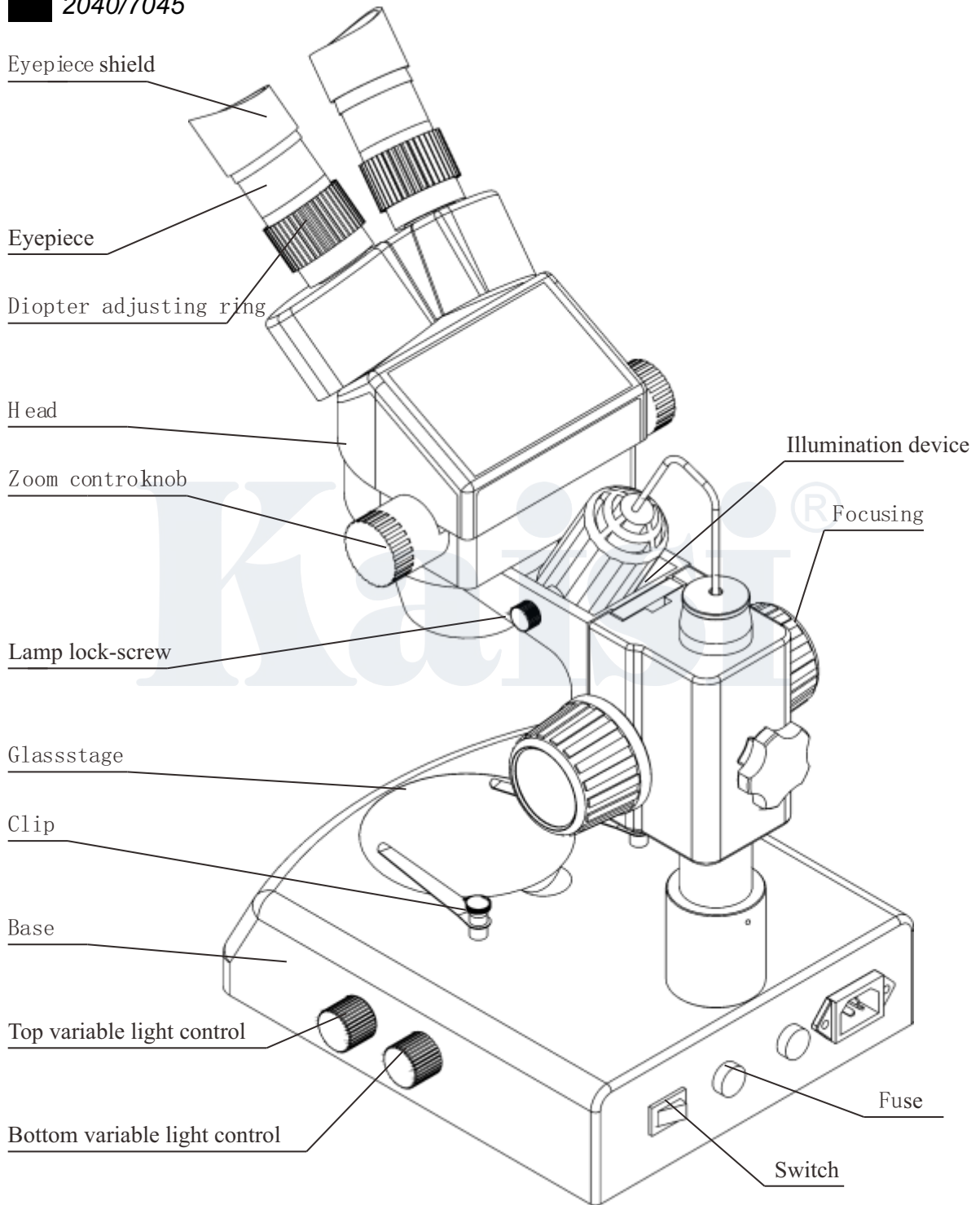
- 1) Microscope ought to be placed in a dry and clean place. Do not expose the microscope in the sun directly. Avoid high temperature and violent vibration.
- 2) As microscope is a precision instrument, handle with care, avoiding impact or abrupt movement during transportation.
- 3) To keep the image clear, do not leave fingerprints or stains on the surfaces of the lens.
- 4) Never turn the left and right focusing knob in the adverse direction at the same time, otherwise the microscope will be damaged.
- 5) Hold the camera with one hand for fearing of falling when you take the films out of the big camera.

1-2 MAINTENANCE

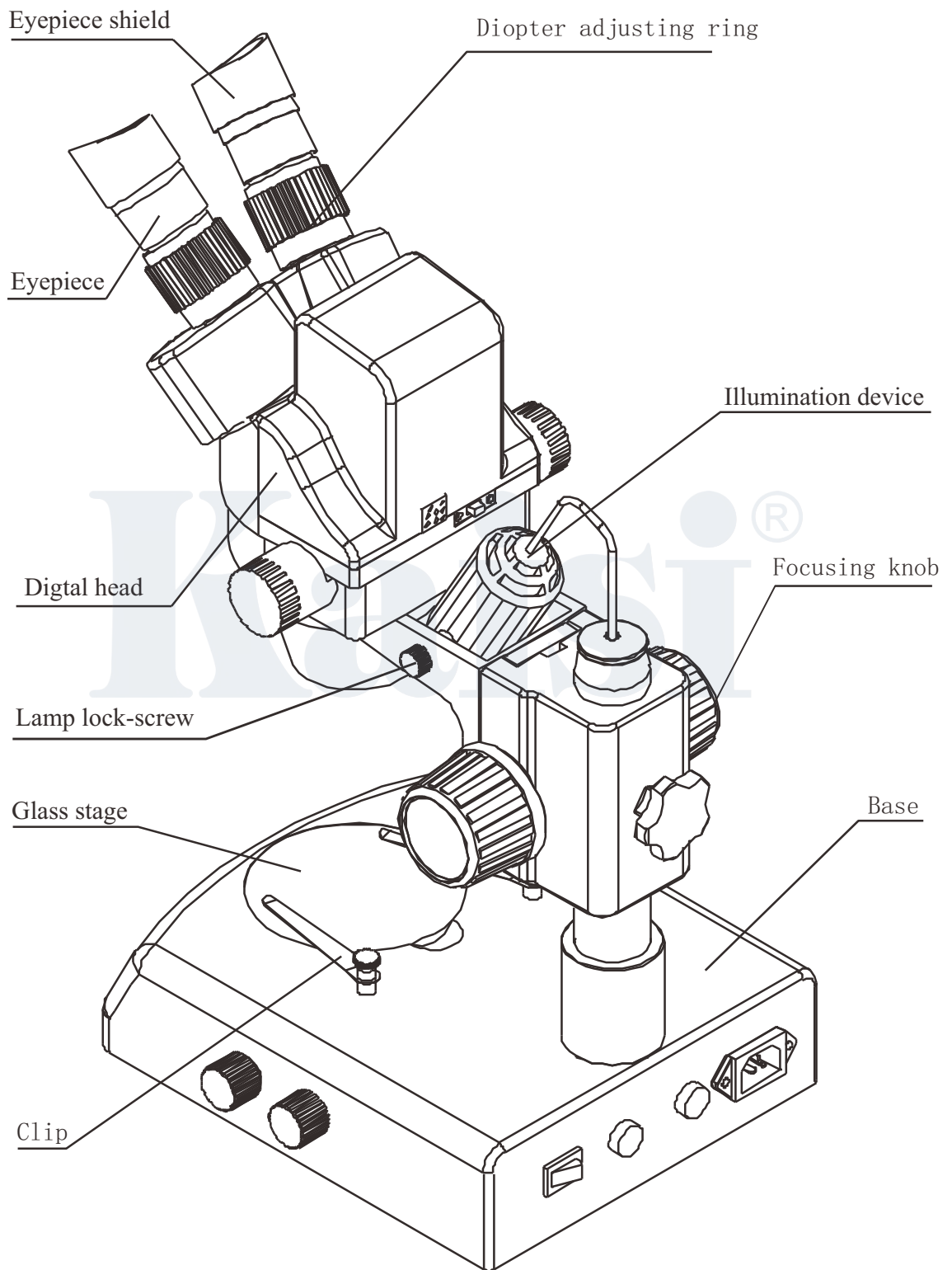
- 1) All lenses must be kept clean. Fine dust on the surface of the lens should be blown off with hand blower or wiped off gently with a soft lens tissue; Fingerprints or oil marked on it should be wiped off with a tissue moistened with a small amount of xylene or a 3:7 mixture of alcohol and ether.
- 2) Never use the organic solution to clean the other surface (especially the plastic surfaces). If necessary, please choose the neutral detergent.
- 3) Do not take the microscope apart for fearing that it is damaged.
- 4) After using, cover the microscope with the dust-cover provided and store it in a dry and clean place free from moisture to prevent rust.
- 5) To keep the performance of the microscope, please check it periodically. The detail can be gotten from the agent nearby.

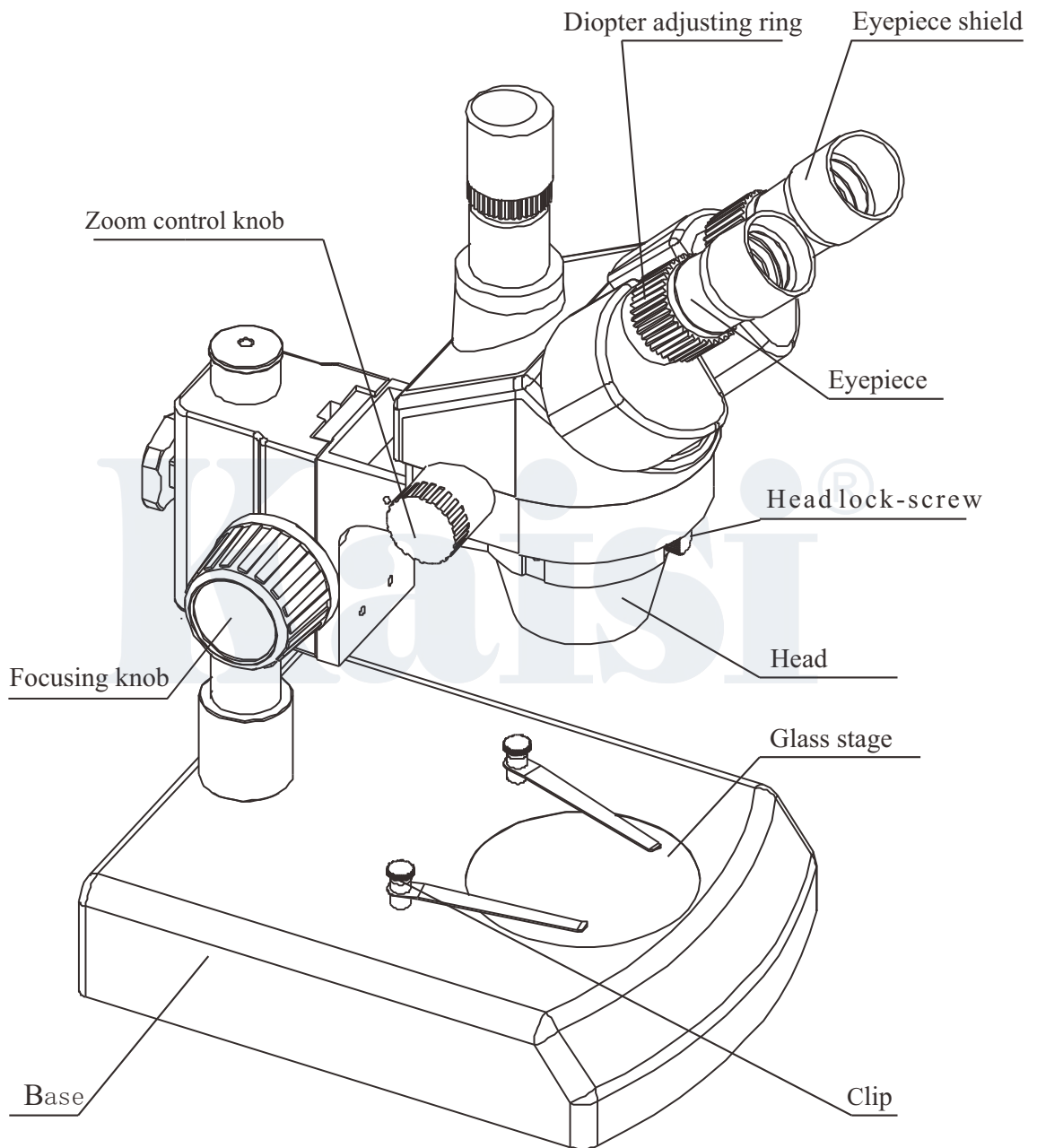
2 Nomenclature

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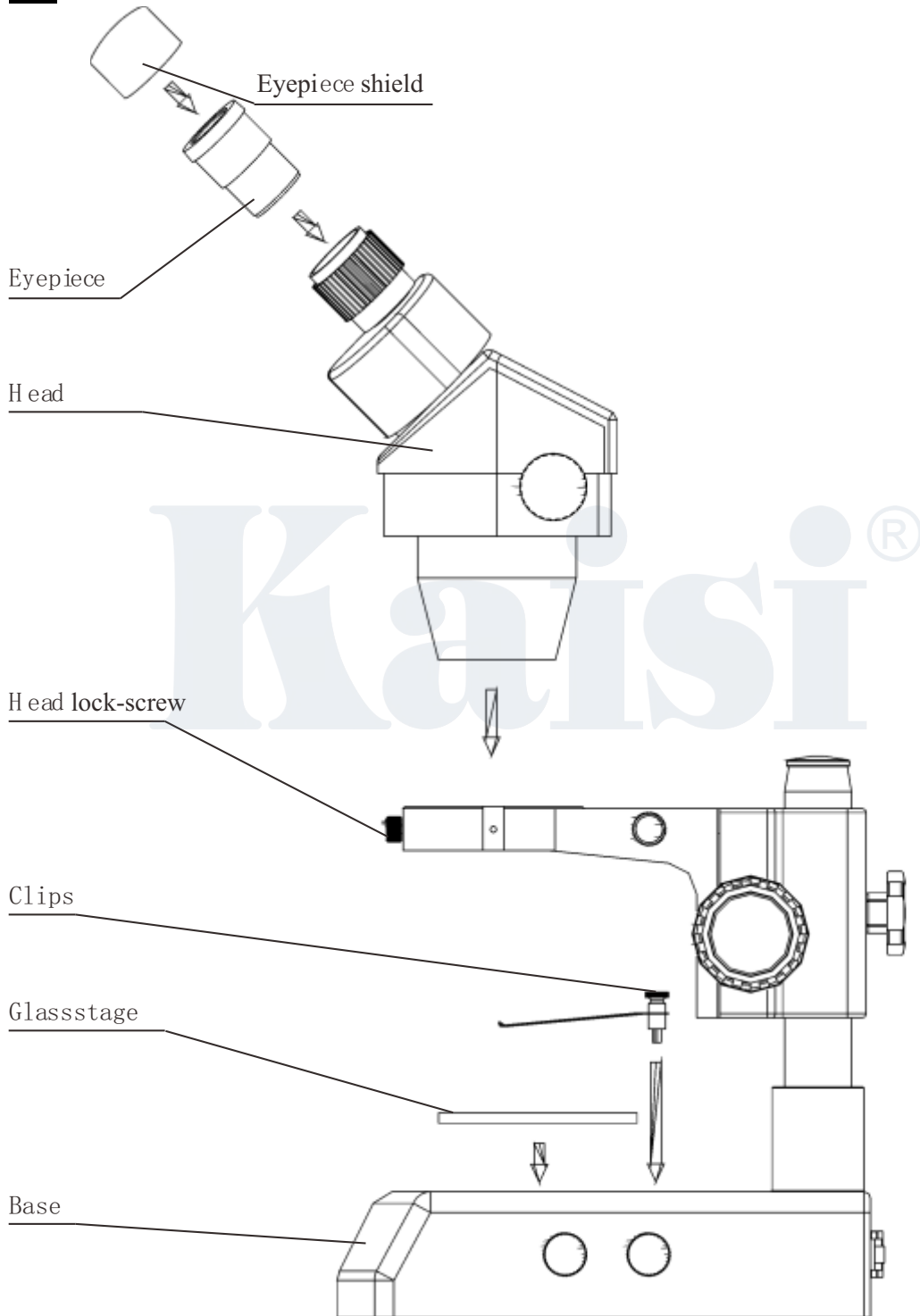
2-2 37045



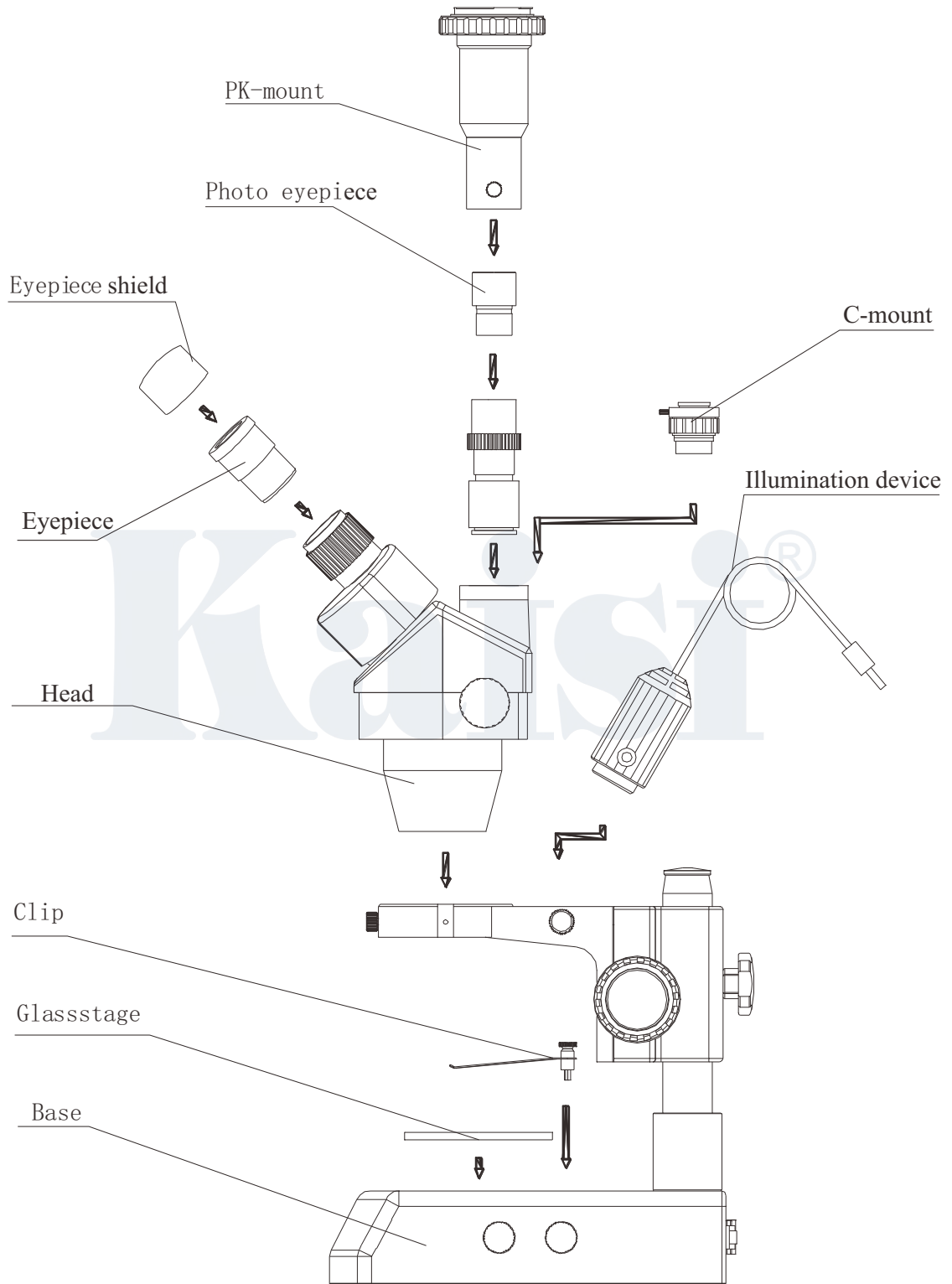


3 Assemblage

3-1 2040/7045



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4 Operation

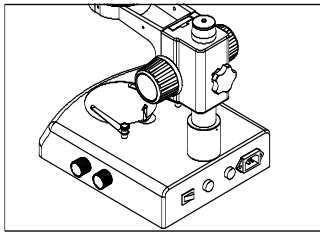


Fig.1

4-1 Use the glass stage

1) Press the glass stage on the sunken place then the other side of the glass stage will be lifted. (Fig.1)

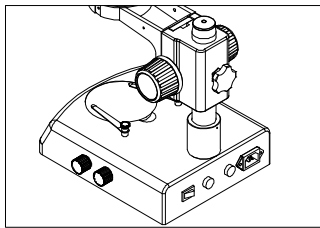


Fig.2

4-2 Adjust the degree of tightness of the focusing arm.

1) If you want to adjust degree of tightness of the focusing arm, you can hold one of the focusing knobs and turn another one to attain a suitable position. The degree of tightness relies on the direction to be turned. The clockwise direction is tight, otherwise, is loose.

2) The suitable position of tightness can make the adjustment more comfortable and prevent the focusing bracket from slipping down by its weight during the observation. (Fig.2)

4-3 Set the specimen slide

- 1) Set the specimen on the center of stage plate. If necessary, clamp the slide with the clips.
- 2) Turn on the light.

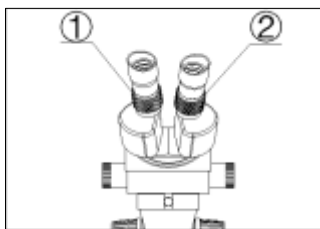


Fig.3

4-4 Adjust the specimen slide

- 1) Turn the zoom control knob to the maximum magnification.
- 2) Turn the diopter adjusting rings to the zero.
- 3) Observe the specimen through the right eyepiece and make the image clear by turning the focusing knob.
- 4) Rotate the zoom control knob to the minimum magnification.
- 5) Observe the specimen through the right eyepiece and make the image clear by turning the right diopter adjusting ring ②. (Fig.3)
- 6) Redo the step(1),(3), (4)and (5) till the right adjusting ring is more precise.
- 7) Do the step (4) and make the image clear which is observed through the left eyepiece by turning the left diopter adjusting ring ①. (Fig.3)

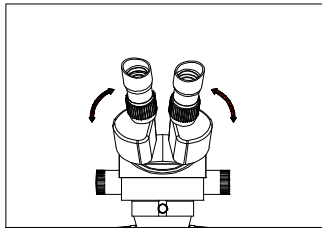


Fig.4

4-5 *Adjust the interpupillary distance*

- 1) Adjust the prism housing along the direction of arrowhead of the Fig.4 till the observation is comfortable.

4-6 *Use Eyepiece shields*

- 1) For user who does not wear glasses, hold the diopter-adjusting ring to prevent them from rotating and turn the eyepiece till the eyepiece shields fit the observer well.
- 2) For user who wears glasses, take the eyepiece shields off before observation

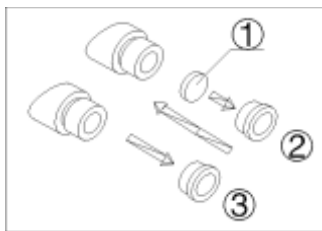


Fig.5

4-7 *Mount and Remove the Optional Eyepiece Micrometer*

- 1) Turn and remove the mounting ring ② from the eyepiece.(Fig.5)
- 2) Clean the eyepiece micrometer ① and mount it to the mounting ring with the inscription side downward
- 3) Gently twist the mounting ring with the eyepiece micrometer into the eyepiece till tightening ② securely.
- 4) To remove the eyepiece micrometer, take down the mounting ring ③ by twisting and take out of the micrometer, and then wrap it.

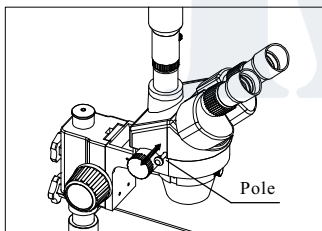


Fig.6

4-8 *Choose the optical system*

- 1) You can alternate the binocular observation and video capture by pushing or pulling the pole. You can attain binocular observation by pushing the pole inside, or attain video capture by pulling it outside. No matter what optical system is chosen, push or pull the pole thoroughly.

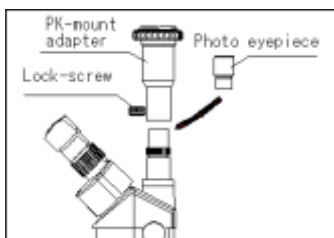


Fig. 7

4-9 *Mount the photo eyepiece and the PK-mount adapter*

- 1)Put the photo eyepieces socket of the tri-ocular.
- 2)Connect the PK-mount adapter with the photo eyepiece, and then tighten the lock-screw. (Fig.7)

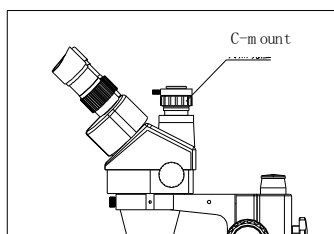


Fig. 8

4-10 *Adjust the CTV*

- 1)Adjust the CTV to a suitable position by rotating C-mount. Note: The range of the adjustment: 1~2mm in general.(Fig.8

4-15 *Appear the image on the computer*

- 1) Turn on the power supply and let the computer work.
- 2) Install the software and the driver of the A/D board. (If they have been installed, this step can be omitted)
- 3) Double click the icon of the software, and then the video window will appear.
You can set the size of the window according to your liking
- 4) Draw out the pole and adjust the focusing knob, and then the image will appear on the computer screen clearly.
- 5) If no image or the image without color, it may be because the model of the input signal does not match the output signal of CCD or the model of C-VIDEO/S-VIDEO is not correct. The detail of operation refers to «Software operation manual».

4-16 *Appear the image on the computer and the Monitor synchronously*

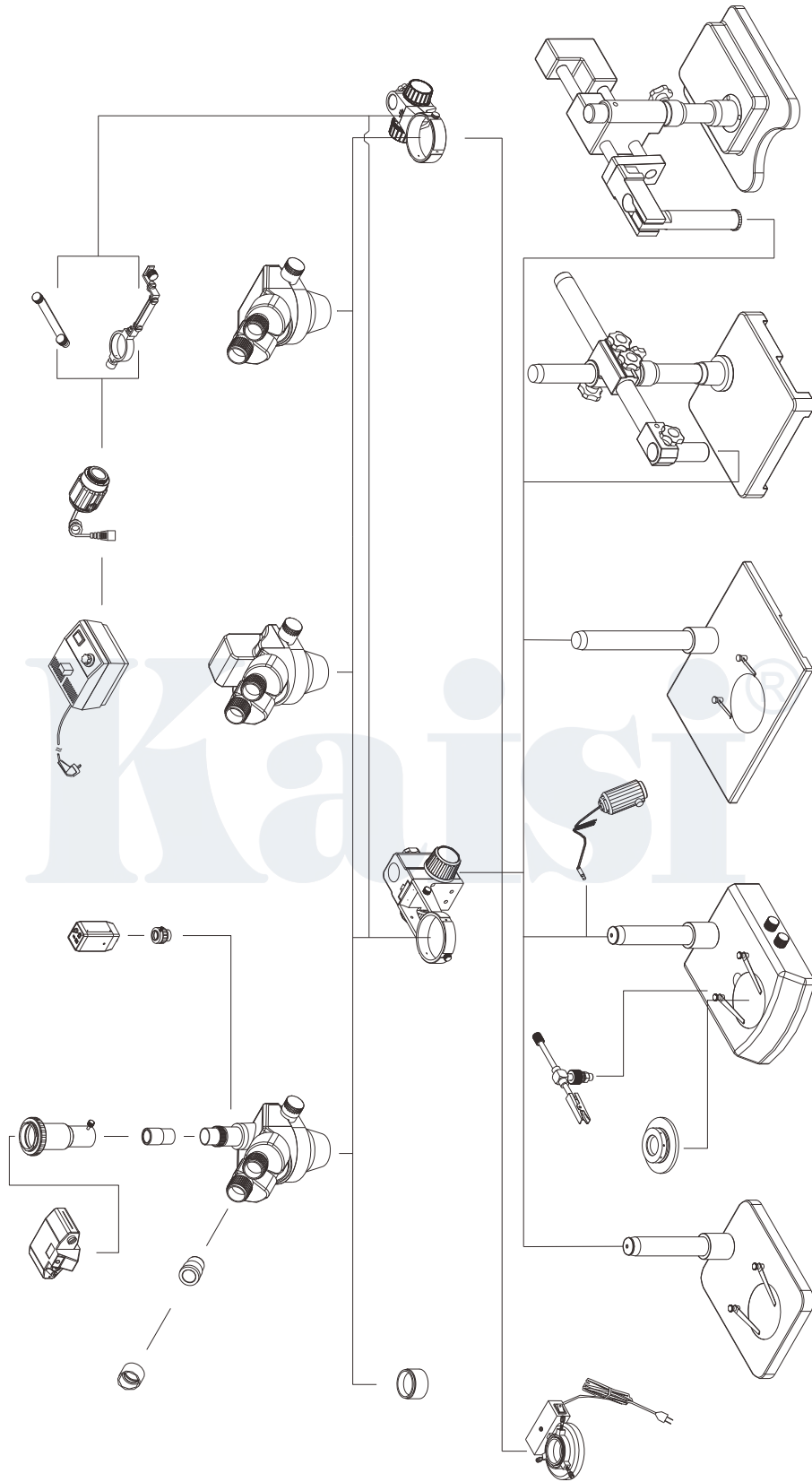
- 1) Do step **4-12** and step **4-14** to connect the computer and the Monitor.
- 2) Operate step **4-13** and step **4-15**, we can make the image appear on the computer and Monitor at the same time.

4-17 *Adjust the image*

- 1) Put the base, stand and digital head correctly, then fix the-lock screw tightly.
- 2) Put the object on the base stage.
- 3) Observe the object through the eyepiece and adjust the focusing knob to make the image of the object clearly.
- 4) Move the digital head or the object gently to adjust the image agreeing with observer.

4-18 *Brief instruction for the software*

- 1) The program design of the software is up to date, and the Chinese/English interface can berth powerful delineation bar which be used much conveniently and rapidly. You can finish most of analyze work only to click the mouse.
- 2) Can afford many powerful area choosing tools which can analyse any area your linking at will, such as adjusting hue and image, dealing with mathematical morphology, image matching, texture analyse, character identify and so on.
- 3) Geometry character measuring function, automatically analyzing function such as sligh-tness body, grain body, line body and so on. The outcome can be kept in data and can be made into chart and so forth.



Kaisi series configuration

7 Troubleshooting

The performance of the microscope can't be made fully because of unfamiliar using, this table will give some advices.

7-1 General troubleshooting

Trouble	Cause	Remedy
1、 Double images	Interpupillary distance is not correct	Readjust it
	Diopter adjustment is not correct	Readjust it
	Magnification of each eyepiece is not the same size	Mount the same size eyepiece
2、 Dirt appears in the field of view	Dirt on the specimen	Clean the specimen
	Dirt on the surfaces of eyepiece	Clean the surface
3、 Image is not clear	Dirt on the surfaces of the objectives	Clean the objectives
4、 Image is not clear while the focus changing	Diopter adjustment is not correct	Readjust the diopter
	Focus is not correct	Readjust the focus
5、 The focusing knob is not smooth	The focusing knob is too tight	Loosen it to a suitable position
6、 The image is obscure because of the head slipping down by itself during observation	The focusing knob is too loose	Tighten it to a suitable position
7、 Incision image appears in the field of view or of the video view	The pole is not in correct position	Pull or push it to the correct position
8、 The image on the monitor is not clear when the focusing knob is turned.	The focus of video is not correct	Readjust the focus of video to a correct position
9、 Eyes fell tired easily	Diopter adjustment is not correct	Adjust the diopter
	Brightness of light is not correct	Adjust the brightness
10、 Bulb does not work when the switch is on	No power supply	Check the connection with the power supply
	The bulb was not inserted correctly	Insert it correctly
	Bulb is wrong	Replace with a new one
11、 Bulb is burned out suddenly	Use the wrong bulb	Replace with a correct one
	The voltage is too high	Control the voltage Eg: use voltage regulator
12、 Brightness is not enough	Use a wrong bulb	Replace with a correct one
	The voltage is too low	Increase the input voltage
13、 The bulb flickers or the brightness is unstable	The bulb will burn out soon	Replace with a new one
	The bulb was not inserted correctly	Insert it correctly

7-2 Video troubleshooting

Trouble	Cause	Remedy
1、Incision image appears in the video view	The pole is not in correct position	Draw it to the correct position
2、Dirt appears in the video view	Dirt on the specimen	Clean the specimen
	Dirt on the surface of objective	Clean the surface
3、 Image is not clear while the focus changing	The image is not clear in the high magnification	Readjust the high magnification
4、 No image on the TV screen	The draw pole is not in correct position	Draw it to the correct position
	Objective cover is not open	Open it
	TV is not on Video channel	Choose the correct one
5、 No image on the Monitor	Connection is not correct	Reconnect the circuit
	Objective cover is not open	Open it
	The input signal does not accord with the signal be chosen on the Monitor	Choose the correct signal model
6、 The software run slowly or the window of the view does not come out	12V DC power does not be connect	Connect the 12V DC power
	No input signal of A/D board	Reconnect the C-Video or S-Video signal
	The input signal does not accord with the signal which is chosen in the driver of the A/D board	Choose the correct signal model which match the input signal
7、 The image is not correct on the view window	The CCD model chosen in the driver of the A/D board does not accord with the real CCD	Choose the correct CCD model