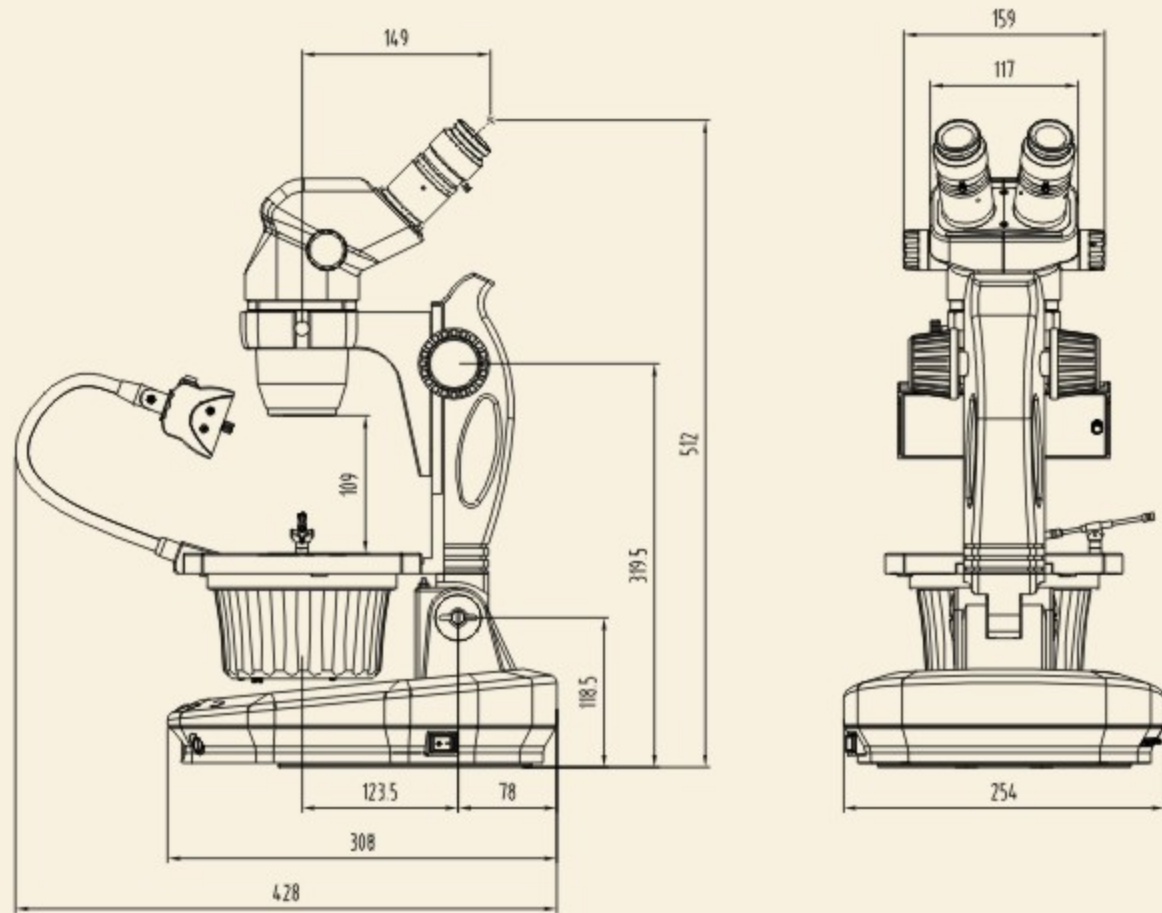


# SZG Jewelry Microscope

SZG dimensions:mm



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 舜宇仪器  
SZG系列

# SZG JEWELRY MICROSCOPE

SZG珠宝显微镜



[www.sunnyoptical.com](http://www.sunnyoptical.com)

## SZG — 令人惊喜的成像效果 超乎预期的产品价格

SZG珠宝显微镜，采用格里诺夫光学成像系统与适合珠宝检测的专用镜体，全面满足各类钻石、晶体、宝石等珠宝鉴赏的需求。

SZG jewelry microscope, with Greenough optical system and special stand, fully meet the demands of various types of diamonds, crystals, gems and other jewelry.



### 采用1:6.7连续变倍光学系统

0.67X-4.5X连续变焦物镜，倍率设置满足珠宝外观观察与内部精细鉴定的需要，优异的光学系统提供了高清晰度、高对比度、高分辨率的图像，同时具有较大的景深，使最终成像具有较强的3D效果。

### Zoom optical system 1:6.7

0.67X-4.5X zoom lens, magnification fulfills the needs of jewelry appearance observation and internal fine identification. Excellent optical system provides high definition, high contrast and high resolution images. And with a large depth of field, the final imaging has a strong 3D effect.



## SZG-Amazing imaging Over expected price

### 多功能的底座支架设计

专业珠宝显微镜支架体，具有底盘旋转、观察倾角调节，镜体升降等功能，能够根据不同的使用习惯与不同的样品，进行随意调整。

### Multi-functional base and stand

Professional jewelry microscope stand, with the disk rotation, observation angle adjustment, body lifting and other functions, it can be adjusted according to the different habits and different samples.

### 多种照明与成像方式

有荧光灯与卤素灯照明，可以实现平行光、斜射光、透射光等照明方式；可实现明场、暗场与偏振光观察，用以分析宝石的各种成分与特性。

### Different illumination and imaging modalities

With fluorescent and halogen illumination, you can achieve parallel light, oblique light, transmitted light and other lighting methods, to achieve bright field, dark field and polarized light observation. Thus, you can analyze various components and characteristics of gem.





### 采用最新的SZ6745N型高级体视显微镜

连续变倍物镜，变倍范围0.67x-4.5x，工作距离100mm，配置SZEWH10X/22高眼点视度可调目镜，从而实现6.7X-45X的放大倍率，满足常规珠宝检测的需求。

### The latest stereo microscope SZ6745N

Zoom lens, range of 0.67x-4.5x, working distance 100mm, High eyepoint diopter adjustable SZEWH10X/22 to achieve 6.7X-45X magnification, to meet the needs of conventional jewelry testing



### 珠宝检测专用的底座支架

稳固大气的底座，内置110-220V宽电压系统，使得系统照明不受电压波动与区域电气规格不同的限制，

轻巧灵活的支架，可后倾45°，镜臂中部的手提位置的设计，使得倾角调节与显微镜搬动都更加方便与安全。

调焦手轮松紧可以调节，托架组调焦行程达到110mm，使得不同体积与大小的珠宝都能进行检测。

整个底座支架组可绕底座下面的转盘作360°旋转，可以方便的改变观察位置。

### Jewelry detection stand

The steady and decent stand, built-in 110-220V wide-voltage systems, ensure the illumination overcoming the restriction of voltage fluctuation and different voltage standards.

Flexible stand, retroverted 45°, hand-held design, make the angle adjustment and microscope moving more convenient and secure.

Focusing hand wheel can be adjusted. The focus range is 110mm. Then the different size jewelry can be detected.

完美的产品性能、丰富的产品配置，SZG可以为您的每一种观察需要提供最佳的产品组合配置。

Perfect performance, multiple parts, SZG can provide the most suitable specification for your observation.

### 全新设计的SZEWH10T目镜

SZEWH10T大视场高眼点视度可调目镜，线视场F.N.达到22mm，在同等倍率下，可以观察到更多的细节。视度可调功能允许使用者根据自己眼睛的视度值进行正确调节，以使观察更加舒适。并可根据实际需要加装各类测微尺。

### The newly designed eyepiece SZEWH10T

SZEWH10T high eye point wide field of eyepiece, F.N. 22mm, which helps you observe more detail at the same magnification. With diopter adjustment, you can make them fit your eyes, and make yourself comfortable. You also can mount micrometer according to the various actual needs



### 多种的照明光源

透射照明系统采用6V 30W卤素灯，亮度可调，黑色圆盘型灯箱内置暗场照明装置与灯泡更换装置，同时确保良好的散热性能。

上照明采用7W日光型荧光灯，能较好的反映珠宝表面的真实色彩。软管连接方式，可以随心所欲的进行照明角度的调节。

根据需要，上照明也可选用1W白色LED，并带有调光功能，软管连接。LED灯具有亮度更稳定，使用寿命长，并且节能环保等优点。



### Illumination

Transmission illumination system with 6V 30W halogen bulb, brightness adjustable, black disc-type lamp box has built-in dark field devices and bulb replacement devices, at same time ensuring better heat emission.

The upper illumination is 7W daylight fluorescent lamp, color, can reflect the true color of the surface of the jewelry better. Hose connection, the lamp can be any angle as you need.

According to different needs, you can also choose 1W white LED, color, with a dimming function, hose connection. LED lamps are more stable brightness, long life, energy-saving and environment protection.



### 各种辅助物镜可选

根据所观察样品的大小以及所需要的倍率，可以选择各种辅助物镜来改变系统的工作距离与放大倍率。

### Auxiliary objectives

According to the size of the sample and the required magnification, you can choose a variety of auxiliary objectives to change the system's working distance and magnification.

### 三目观察筒与摄像适配器

选用SZ6745NTR新型高级连续变倍三目体视显微镜，并根据所用CCD靶面的尺寸来选择合适的摄像适配器，可将观察到的显微图像输出至监视器或计算机，以进行图像分析、处理、与保存。

### Trinocular head and camera adapter

According to the size of the target surface to select appropriate video adapter, new advanced SZ6745NTR trinocular zoom stereo microscope with a CCD can transfer the image observed in the microscopic to the monitor or computer for analysis, processing and preservation.

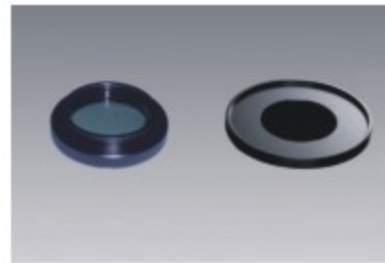


### 偏光装置

将起偏镜装在平台中间，将检偏镜旋入观察筒底部的螺纹中，即可进行偏光观察。检偏镜可360°旋转。

### Polarizing device

Put the polarizer in the middle stage and screw the analyzer into the thread in the bottom of the viewing tube, then polarizing observation can be fulfilled. The analyzer can be rotated 360°



### 宝石夹

在SZG平台的两侧，都设计有宝石夹的安装孔，使用者可以根据自己的习惯，来选择宝石夹的安装位置。

宝石夹分为平口夹与钢丝夹两种。平口夹用来夹持一些较小的样品，确保样品夹持稳定。钢丝夹用来夹持一些较大的样品，以减少夹口对照明光线的阻挡。

### Gem clamp

Both sides of the SZG platform, mounting holes for gem clamp are designed. You can select the position of gem clamp according to your own habits.

Gem clamp has two kinds of clamp, flat clamp and wire clamp. Flat clamp can hold some small samples stably. Wire clamp for holding some larger samples in order to ensure enough light.



SZG可以实现透射明场、反射明场、偏光观察、暗场观察等四种观察方法，帮助您对珠宝样品进行全方位的鉴定。

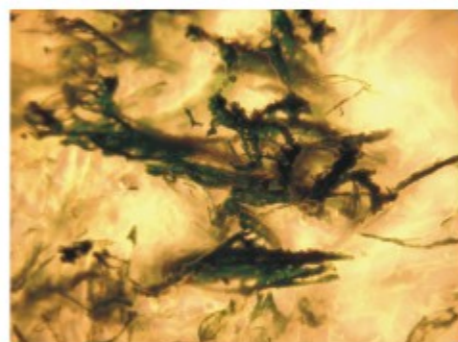
SZG can fulfill transmission bright field, reflection bright field, polarized observation, and dark field observation to help you identify a full range of jewelry samples.

### 明场-下光源透射观察

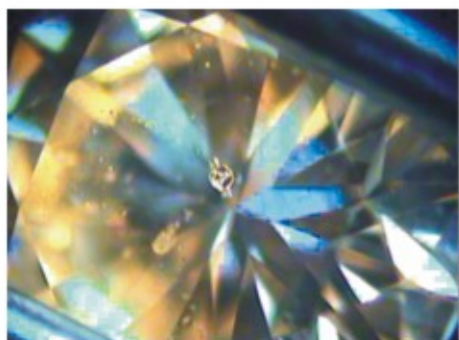
采用下光源进行透射观察，主要用来观察宝石的透光性、均匀性、内部包裹体、裂隙等特性。

### Bright field -transmission observation of bottom light

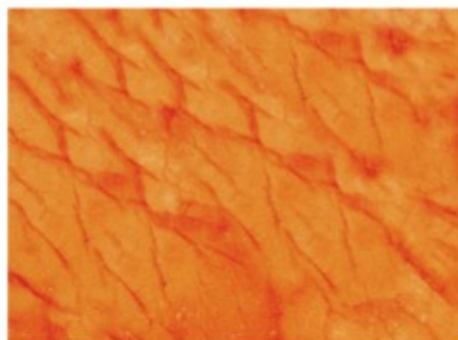
Transmission observed under the bottom light, mainly used to observe the transparency, uniformity, internal inclusions, cracks and other features of the gem.



天然雨花石 明场 (透射)  
Natural yuhua stone bright-field (transmission)



钻石 明场 (透射)  
Diamond bright-field (transmission)



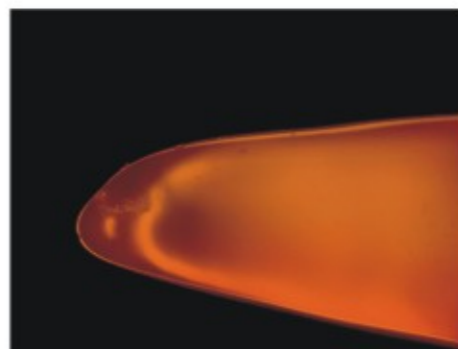
血丝石 明场 (反射)  
Blood stone bright-field (reflection)

### 明场-上光源反射观察

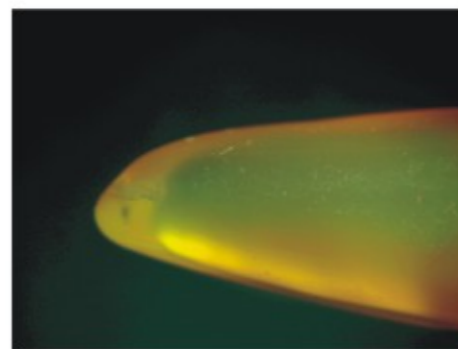
采用上光源进行反射观察，主要用来观察宝石的表面光洁度、条纹、断口、色带、解理面等。

### Bright field -reflective observation of upper light

Reflection observed under the upper light, mainly used to observe the gem's surface finish, stripes, fracture, ribbons, cleavage planes etc.



玛瑙 暗场  
Agate dark-field



玛瑙 明场 (反射)  
Agate bright-field (reflection)

### 偏光观察

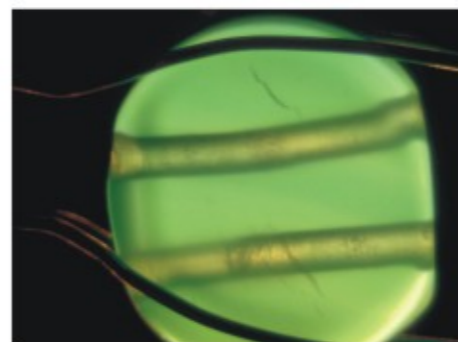
在透射观察的基础上，使用偏光附件，即可进行偏光观察。

正交偏光下，检测宝石的光性特征和多色性，以判断宝石是均质体还是非均质体，从而根据宝石、晶体特有的光学特性来鉴别真伪。

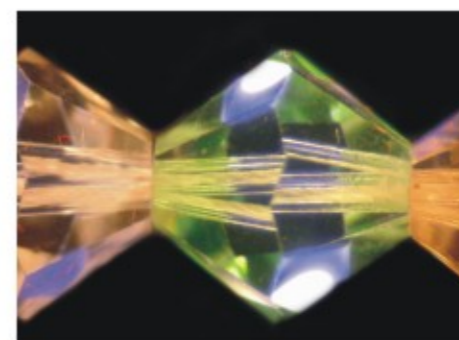
### Polarizing observation

Based on the transmission observation, use with polarized accessories, can achieve polarized observation.

Under orthogonal polarization, detect the photometric characteristics and multicolor of the gem, to determine if it is homogeneous body or not. Then According to the special photometric characteristics of the gem/crystal to distinguish it is real or fake.



玉石 正交偏光  
Jade orthogonal polarization



水晶 正交偏光  
Crystal orthogonal polarization



水晶 暗场  
Crystal dark-field

### 暗场观察

在透射光照明的条件下，通过旋转平台上的暗场拨杆，将暗场光阑加入光路，即可进行暗场观察。

暗场观察是用大角度斜射光照明宝石，从而发现宝石中那些具有折射特性的物质，如杂质、包体、条纹等，以帮助判断宝石的特性与等级，提高鉴定精度。

### Dark field observation

Under the transmitted light, rotating the dark field driving lever on the stage, dark field diaphragm can be put in the optical path, dark field can be observed.

Dark field observation is to use wide-angle oblique lighting the gem to find something with refraction characteristic inside, such as impurities, inclusions, stripes etc, to help determine the characteristics and level of the gem and to improve identification accuracy.

## SZG珠宝显微镜光学参数表

### SZG optical parameter matrix

SZ6745/SZ6745N							
Attachment objective	Varifocus lens	10X22eyepiece		15X16eyepiece		20X12eyepiece	
		Magnification	Object field(mm)	Magnification	Object field(mm)	Magnification	Object field(mm)
0.75X Wd: 120mm	0.67x	5.0 X	43.8	7.5 X	31.8	10.1 X	23.9
	1x	7.5 X	29.3	11.3 X	21.3	15.0 X	16.0
	2x	15.0 X	14.7	22.5 X	10.7	30.0 X	8.0
	3x	22.5 X	9.8	33.8 X	7.1	45.0 X	5.3
	4x	30.0 X	7.3	45.0 X	5.3	60.0 X	4.0
	4.5x	33.8 X	6.5	50.6 X	4.7	67.5 X	3.6
NONE WD: 100mm	0.67x	6.7 X	32.8	10.1 X	23.9	13.4 X	17.9
	1x	10.0 X	22.0	15.0 X	16.0	20.0 X	12.0
	2x	20.0 X	11.0	30.0 X	8.0	40.0 X	6.0
	3x	30.0 X	7.3	45.0 X	5.3	60.0 X	4.0
	4x	40.0 X	5.5	60.0 X	4.0	80.0 X	3.0
	4.5x	45.0 X	4.9	67.5 X	3.6	90.0 X	2.7
1.5X Wd: 47mm	0.67x	10.1 X	21.9	15.1 X	15.9	20.1 X	11.9
	1x	15.0 X	14.7	22.5 X	10.7	30.0 X	8.0
	2x	30.0 X	7.3	45.0 X	5.3	60.0 X	4.0
	3x	45.0 X	4.9	67.5 X	3.6	90.0 X	2.7
	4x	60.0 X	3.7	90.0 X	2.7	120.0 X	2.0
	4.5x	67.5 X	3.3	101.3 X	2.4	135.0 X	1.8
2X Wd: 26mm	0.67x	13.4 X	16.4	20.1 X	11.9	26.8 X	9.0
	1x	20.0 X	11.0	30.0 X	8.0	40.0 X	6.0
	2x	40.0 X	5.5	60.0 X	4.0	80.0 X	3.0
	3x	60.0 X	3.7	90.0 X	2.7	120.0 X	2.0
	4x	80.0 X	2.8	120.0 X	2.0	160.0 X	1.5
	4.5x	90.0 X	2.4	135.0 X	1.8	180.0 X	1.3

### SZM/SZMN

Attachment objective	Varifocus lens	10X20eyepiece		15X15eyepiece		20X10eyepiece	
		Magnification	Object field(mm)	Magnification	Object field(mm)	Magnification	Object field(mm)
0.5X WD: 165mm	0.7 X	3.5 X	62.9	5.3 X	45.7	7.0 X	34.3
	1 X	5.0 X	44.0	7.5 X	32.0	10.0 X	24.0
	2 X	10.0 X	22.0	15.0 X	16.0	20.0 X	12.0
	3 X	15.0 X	14.7	22.5 X	10.7	30.0 X	8.0
	4 X	20.0 X	11.0	30.0 X	8.0	40.0 X	6.0
	4.5 X	22.5 X	9.8	33.8 X	7.1	45.0 X	5.3
0.75X WD: 105mm	0.7 X	5.3 X	41.9	7.9 X	30.5	10.5 X	22.9
	1 X	7.5 X	29.3	11.3 X	21.3	15.0 X	16.0
	2 X	15.0 X	14.7	22.5 X	10.7	30.0 X	8.0
	3 X	22.5 X	9.8	33.8 X	7.1	45.0 X	5.3
	4 X	30.0 X	7.3	45.0 X	5.3	60.0 X	4.0
	4.5 X	33.8 X	6.5	50.6 X	4.7	67.5 X	3.6
NONE WD: 100mm	0.7 X	7.0 X	31.4	10.5 X	22.9	14.0 X	17.1
	1 X	10.0 X	22.0	15.0 X	16.0	20.0 X	12.0
	2 X	20.0 X	11.0	30.0 X	8.0	40.0 X	6.0
	3 X	30.0 X	7.3	45.0 X	5.3	60.0 X	4.0
	4 X	40.0 X	5.5	60.0 X	4.0	80.0 X	3.0
	4.5 X	45.0 X	4.9	67.5 X	3.6	90.0 X	2.7
1.5X Wd: 45mm	0.7 X	10.5 X	21.0	15.8 X	15.2	21.0 X	11.4
	1 X	15.0 X	14.7	22.5 X	10.7	30.0 X	8.0
	2 X	30.0 X	7.3	45.0 X	5.3	60.0 X	4.0
	3 X	45.0 X	4.9	67.5 X	3.6	90.0 X	2.7
	4 X	60.0 X	3.7	90.0 X	2.7	120.0 X	2.0
	4.5 X	67.5 X	3.3	101.3 X	2.4	135.0 X	1.8
2X Wd: 30mm	0.7 X	14.0 X	15.7	21.0 X	11.4	28.0 X	8.6
	1 X	20.0 X	11.0	30.0 X	8.0	40.0 X	6.0
	2 X	40.0 X	5.5	60.0 X	4.0	80.0 X	3.0
	3 X	60.0 X	3.7	90.0 X	2.7	120.0 X	2.0
	4 X	80.0 X	2.8	120.0 X	2.0	160.0 X	1.5
	4.5 X	90.0 X	2.4	135.0 X	1.8	180.0 X	1.3

### SZG技术规格:

型号	SZG
观察头	SZ6745N型高级连续变倍双目体视显微镜, 变倍范围0.67x-4.5x, 工作距离100mm
	SZ6745NTR型高级连续变倍三目体视显微镜, 变倍范围0.67x-4.5x, 工作距离100mm, 100%分光
目镜	SZEWH10X22T大视场高眼点视度可调目镜
	SZEWH15X16T大视场高眼点视度可调目镜
	SZEWH20X12T大视场高眼点视度可调目镜
机架组	支架可后倾45°, 调焦手轮松紧可调, 托架组调焦行程110mm, 整个底座组可360° 旋转, 内置110V-220V宽电压系统。
上照明	7W 荧光灯
	1W 单颗大功率LED, 白色, 亮度可调
下照明	6V 30W 卤素灯, philips 5761, 亮度可调
宝石夹	钢丝夹
	平口夹

### SZG specifications:

model	SZG
Head	SZ6745N zoom binocular head, zoom objective magnification 0.67x-4.5x, working distance 100mm
	SZ6745NTR zoom trinocular head, zoom objective magnification 0.67x-4.5x, working distance 100mm
Eyepiece	SZEWH10X22T widefield high point diopter adjustable eyepiece
	SZEWH15X16T widefield high point diopter adjustable eyepiece
	SZEWH20X12T widefield high point diopter adjustable eyepiece
Stand	Retroverted 45° stand. Focusing hand wheel can be adjusted. The focus range is 110mm. The stand can be 360° rotation around the turntable, built-in 110-220V wide-voltage systems
Upper light	7W fluorescent lamp 1W single high power LED, white, brightness adjustable
Bottom light	6V 30W halogen bulb, philips 5761, brightness adjustable
Gem clamp	Wire clamp
	Flat clamp

### SZG珠宝显微镜系统配置图: (SZG system diagram)

