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FF Sword 100mm T2.9 Macro 2X Cine

使用手册

Instruction Manual

**LAOWA 老蛙**

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## 前言

真诚地感谢您选购 FF Sword 100mm T2.9 Macro 2X Cine全画幅微距电影镜头。支持无限远至2倍放大的拍摄范围,拥有“复消色差”APO技术,可最大限度消除色散。无论是微距还是无限远,在对焦范围内都能获得极佳的成像画质,为用户提供了稳定可靠的支持。可拍摄到微小的物体,如小型昆虫、珠宝首饰等。



为了操作上的安全,使用本产品前请务必详细阅读使用手册与注意事项,并将手册放在需要时容易取得的地方。如遇到不能解决的问题请通过售后电话获取技术支持。

## 主要特色

- 1、FF Sword 100mm T2.9 Macro 2X Cine区别于传统的微距镜头,此款镜头在全画幅系统的高性能成像基础上,无穷远到微距都可以拍出高解析画质的照片,并且微距模式下达到了令人惊叹的2倍物体放大,APO技术的加持,让此镜头在两倍放大成像下,也没有明显的色散。更高的放大倍率,使用户拥有更多的创作空间。
- 2、采用13片光阑叶片设计,让光圈更圆,可使点光源呈现出接近圆形的虚化效果,给予了焦外美丽且柔和的虚化。
- 3、内部有10组12枚镜片,能够带来高素质成像。外有全金属材料制成的机械结构,保障了镜头长期使用的耐用性。

## 注意事项

### △ 安全注意事项

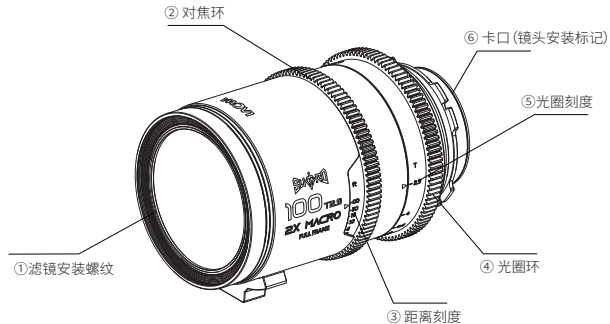
- 切勿自行拆解、修改或改装。当产品由于外力原因破损,切勿触碰外露部分或破损边缘处。
- 切勿放置于直射阳光下、封闭车辆中或其余高温处,否则过高的温度会使镜片和其他部件产生伸缩变形。
- 不使用镜头时,请将镜头前盖盖上或置于没有阳光照射处。凸透镜反射出的光线可能会聚集在附近物体上,导致发生火灾。
- 在逆光拍摄时,切勿将太阳置于画面中心,应该使太阳充分偏离画角,否则阳光会在相机内部聚集并导致火灾或灼伤眼睛。

## 注意事项

### 长期使用保养注意事项

- 避免触摸镜头表面,应用专用镜头布或气吹去除镜头表面的尘埃,不使用镜头时,应将镜头盖盖上。
- 使用镜头纸或镜头布清洁时,以螺旋的方式从中间向外擦拭镜头上的污垢以及指印。
- 镜头从寒冷的环境突然转移至温暖的环境时,镜头的外部以及内部镜片将会凝结水雾,所以在转移时应采取防潮保护措施。

## 各部件名称



### ■ 镜头安装

取下镜头后盖，将镜头卡口上的安装标记⑥对准相机座圈上的对应标记，随后将镜头插入机身座圈，根据所购买卡口的安装方式进行安装。安装时请不要用力过猛，以免导致卡口损伤。

### ■ 镜头拆卸

关机后按住相机上的镜头释放按钮，依照所购买卡口的安装方向反向旋转镜头，随后将镜头从座圈中拔出。

装上镜头后，请尝试旋转镜头确认是否已将其固定在相机上。为了保证镜头更加稳定，根据需求安装镜头导轨和Y形支架。

### ■ 对焦

此款镜头是全手动对焦镜头，合焦时，缓慢旋转对焦环②，直至合焦。

不要过猛过快地旋转对焦环，避免用力过度损坏对焦环部件。  
镜头上的距离刻度③与景深刻度是出于指导目的。实际焦点与景深可能同刻度标记稍有不同。  
如需要非常精确的对焦，请在固定好相机位置的情况下使用最大光圈对焦，对焦完成后再旋至所需要的光圈值。

为了对焦的方便性，请开启相机内的峰值对焦功能(视所使用相机功能而定)。

## ■ 光圈使用

- 光圈在镜头上调节, 根据拍摄环境和与所需要的景深, 转动光圈环④来选择对应的光圈。  
由于此镜头无CPU数据, 所以暂时无法记录光圈参数。

## ■ 对焦方法一

- 放大倍率预先确定后再进行对焦
  - ① 预先确定放大倍率, 随后转动对焦环至所需的放大倍率刻度。
  - ② 通过取景器或开启Live View (实时取景) 功能观察画面, 并前后平移相机进行粗略对焦直至确定合适的焦距。
  - ③ 转动对焦环对物体进行精确对焦。

## ■ 对焦方法二

- 先构定拍摄画面, 在通过取景器或开启Live View (实时取景) 功能观察画面的同时, 转动对焦环, 构定拍摄画面后, 进行方法一的②、③步骤。

在进行高放大倍率拍摄时, 镜头的工作距离非常短, 容易碰到拍摄物体, 请小心拍摄。

放大倍率是指记录在传感器或胶片上的图像尺寸大小与拍摄物体的实际尺寸大小之间的比例关系。

## ■ 垫片安装与调试方法

- 因不同厂家生产的PL口摄影机卡口法兰距存在差异,我们的镜头可以通过调整卡口垫片厚度来修正补偿法兰距差异。具体方法是:将镜头安装在使用的摄影机上,选择一处可以确认拍摄距离(比如5英尺4英寸)的景物为目标,对焦清晰后,查看调焦手轮实际显示的刻度值,如果刻度值>5英尺4英寸,则选择更换比原垫片更薄一些的垫片调试,反之则需要选择更厚的垫片进行调试。调试后,刻度准确,则完成调试。

规格表

FF Sword 100mm T2.9 Macro 2X Cine	
焦点距离	100mm
光圈范围	T2.9-22
视场角	26.1°
像场范围	Φ46.5
镜头结构	10组12枚
光阑叶片	13片
最近摄影距离(物像距离)	24.7cm
最近摄影距离(工作距离)	7.1cm
合焦驱动方式	手动(MF)
滤镜尺寸	Φ77mm
镜头尺寸	Φ85.6mm*139mm (PL卡口)
重量	约957g
卡口	PL



## Preface

Thank you very much for purchasing FF Sword 100mm T2.9 Macro 2X Cine full frame macro cinema lens. This lens can shoot from unlimited to 2 times magnification. With "APO" technology, it can maximize the elimination of chromatic dispersion. Whether it is macro or infinite, it can get excellent image quality in the focus range, providing users with stable and reliable support. It can take pictures of small objects, such as small insects, jewelry, etc.



*Read this operation manual carefully to familiarize yourself with its contents and ensure that you can operate the product properly. Keep the Instruction Manual in a safe place where it can easily be referenced whenever required. If you are still unable to solve the problem by reading the manual, please contact our after-sales service for further technical support.*



## Main features

- 1.FF Sword 100mm T2.9 Macro 2X Cine is different from traditional macro lens.On the basis of full frame system of high-performance imaging, this lens can take a picture of high resolution image quality from infinity to macro. Besides, under macro mode, it can achieve amazing 2 times magnification of objects. With the help of “APO” technology, this lens has no obvious chromatic dispersion under 2 times magnification. Higher magnification gives users more space for creation.
- 2.It adopts 13 aperture blades, therefore, the aperture is more round, which makes the point light source presents a nearly circular vlur effect and gives a beautiful and soft bokeh.
- 3.This lens is constructed of 12 elements in 10 groups, which can bring high resolution imaging. The all-metal structure ensures the durability of the lens for long-term use.

## Matters needing attention

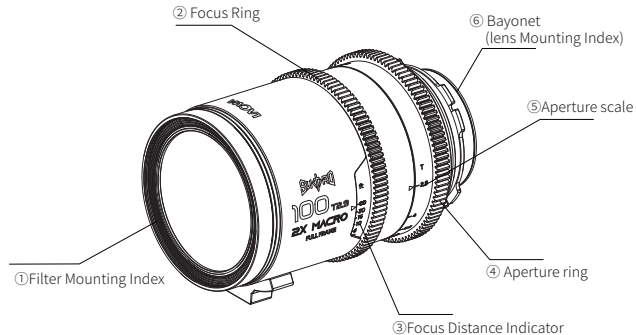
### ■ △ Safety Precautions

- Do not disassemble, modify the lens by yourself. Do not touch the internal parts that become exposed as the result of external force.
- Do not leave the lens where it will be exposed to high temperatures, such as in direct sunlight and an enclosed vehicle. Excessive heat may deform the glass elements and other parts of the lens.
- Whether it is attached to the camera or not, do not leave the lens under the sun without the lens cap attached. This is to prevent the lens from concentrating the sun's rays, which could cause a fire.
- Do not place the sun in the frame center when shooting with backlight. Doing so might cause a fire or harm your eyes.

## ■ Maintenance Precautions

- Do not touch the surface of the lens directly. Brush off any dust with a blower. Wipe the surface with a cleaning cloth or a lens tissue.
- Try a circular motion from the center outward to remove oil, fingerprints and grime on the lens surface.
- If your lens is brought directly from a cold place to a warm place, condensation may appear on the lens. To avoid this, be sure to take some action to protect the lens.

## Nomenclature



## Instructions for use

### ■ To attach the Lens

Remove the rear lens cap. Align the mounting index ⑥ on the lens bayonet with the mounting index on the camera, and place the lens on the camera mount, then attach the lens according to the proper installation method of the mount type. Do not use excessive force during installation to avoid damage to the bayonet.

### ■ To remove the lens

Turn the camera off. While pressing and holding the lens release button on the camera, rotate the lens in the reverse direction for attaching the lens until it stops, then detach the lens.

After installing the lens, try rotating it to make sure it is fixed to the camera. In order to ensure more stability of the lens, install lens guide rails and Y-shaped brackets as required.

### ■ Focusing

This is a fully manual lens. Rotate the focusing ring ② slowly to get focus.

Turn the focus ring slowly and gently to prevent the focus mechanism from damage.

The distance scale ③ and depth of field scale are for instructional purposes. Actual focus and DOF may slightly differ from those scale indications.

To get precise focus, it is recommended to focus wide open when the camera position is fixed. Get focus first, then set the desired aperture by turning the aperture ring.

For the ease of focusing, turn on the focus peaking on the camera. (Note that the function depends on camera models.)

## ■ Setting the Aperture

Aperture is set through the aperture ring on the lens. According to the shooting situation and desired depth of field, rotate the aperture ring ④ on the lens to the corresponding aperture.

Since the lens has no CPU data, the aperture value can not be recorded.

## ■ Macro Photography Mode

The maximum magnification is 2 times. The minimum focusing distance is 24.7cm. The minimum distance from the first glass of the lens to the shot object is about 7.1cm.

## ■ Focusing Methods

- Method 1 Focus after magnification is predetermined
  - ①Determine magnification in advance, then turn the focus ring to the desired magnification scale.
  - ②Check the frame by the viewfinder or [Live View] on the camera and pan the camera back and forth to roughly focus until the right focus length is determined.
  - ③Rotate the focus ring to achieve precise focus.

- Method 2

Set the frame first. Turn the focus ring while you are checking the image through the viewfinder or [ Live View] on the camera. After setting the composition, perform steps ② and ③ of Method 1.

When shooting at high magnification, the working distance of the lens is very short and it is easy to touch the shot object. Therefore, please be careful when shooting.

Magnification refers to the proportional relation between the size of the image recorded on the sensor or film and the actual size of the shot object.

- Method of shim installation and debugging

Since the bayonet flange distances of PL mount camera produced by different manufacturers are different, our lens can compensate the difference of flange distance by adjusting the thickness of bayonet shim. Specific method: install the lens on the camera. Then, choose a shot object that can confirm shooting distance (for example, five feet, four inches) as the goal. After focus rightly, check the actual scale value on the focusing handwheel. If the scale value is greater than five feet, four inches, you should change the original shim and choose a thinner shim for debugging. Otherwise, you need to choose a thicker shim. After debugging, the scale value is accurate and debugging is completed.

## Specifications

FF Sword 100mm T2.9 Macro 2X Cine	
Focal Distance	100mm
Aperture Range	T2.9-22
Angle of View	26.1°
Image Field Range	Φ46.5
Lens Structure	12 elements of 10 groups
Aperture Blades	13
Min. Shooting Distance (Object Image Distance)	24.7cm
Min. Shooting Distance (Working Distance)	7.1cm
Focusing	MF
Filter Thread	Φ77mm
Dimensions	Φ85.6mm*139mm (PL Mount)
Weight	About 957g
Mounts	PL

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