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安徽长庚光学科技有限公司

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

服务热线:400-066-1316

Email: [sales@laowalens.com](mailto:sales@laowalens.com)

电话Tel: (+86) 551-69107990

地址: 合肥市庐阳区天水路与太和路交口庐阳中科大校友创新园5号楼

Add: Building 5, USTC Alumni Innovation Park, Crossing of Tianshui  
and Taihe Road, Luyang District, Hefei City, Anhui Province, China

FF 24mm T8.0 2X MACRO Pro2Be

使用手册

Instruction Manual

**LAOWA 老蛙**

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to the final interpretation of the *Instruction Manual*.



## 前言

真诚地感谢您选购 LAOWA FF 24mm T8.0 2X MACRO Pro2Be特种微距镜头。此镜头是全画幅系统特种微距镜头,这支镜头以他独特的外形和特殊的光学设计,给予摄影师前所未有的拍摄体验,开拓全新的拍摄方法,捕捉到一般镜头无法完成的拍摄视角。



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、镜身细长, 结构特殊, 可深入部分常规微距镜头难以深入的地方, 如部分动物洞穴、水下、狭长的缝隙等。
- 2、镜头套装为三支镜头, 分别是直视、35°和90°的前组结构。镜头后组有360°旋转机构, 配合前镜组的不同拍摄角度的组合, 可以通过切换拍摄视角, 满足实际拍摄环境的需要。
- 3、镜头后组有旋转设计, 在不锁死旋转机构的情况下, 可实现镜头360°旋转的拍摄效果。
- 4、镜头前端为全防水结构, 可深入水下拍摄。

## 注意事项

### △ 安全注意事项

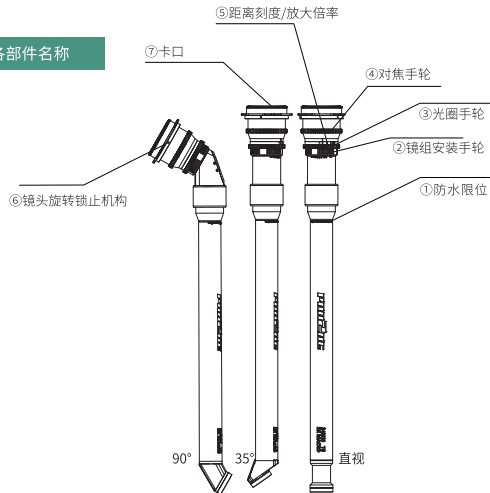
- 切勿自行在镜头结构拆装功能之外的拆解、修改或改装。当产品由于外力原因破损, 切勿触碰外露部分或破损边缘处。
- 切勿放置于直射阳光下、封闭车辆中或其余高温处, 否则过高的温度会使镜片和其他部件产生伸缩变形。
- 不使用镜头时, 请将镜头前盖盖上或置于没有阳光照射处。凸透镜反射出的光线可能会聚集在附近物体上, 导致发生火灾。
- 在逆光拍摄时, 切勿将太阳置于画面中心, 应该使太阳充分偏离画角, 否则阳光会在相机内部聚集并导致火灾或灼伤眼睛。
- 在使用相机内置闪光灯拍摄时, 由于镜头本身会遮挡光线而产生渐晕, 因此建议您使用外设闪光灯拍摄。

## 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





## 使用说明

### ■ 镜头安装

取下镜头后盖。将镜头卡口上的安装标记⑦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向旋转镜头, 直至咔嚓声锁紧镜头。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。

### ■ 对焦

此款镜头是全手动对焦镜头, 合焦时, 缓慢旋转对焦手轮④, 直至合焦。

不要过猛过快地旋转对焦齿轮, 避免用力过度损坏对焦环部件。

镜头上的距离刻度⑤与放大倍率是出于指导目的。实际焦点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

光圈在镜身上调节, 根据拍摄环境和与所需要的景深, 转动镜身光圈环来选择对应的光圈。

由于此镜头无CPU数据, 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。

## ■ 前镜组拆装方法

- ① 旋转防水筒手轮，拧松并取下前镜组结构 (前镜组和防水筒为一体结构)
- ② 取出更换前镜组，旋入安装螺纹，并锁止防水筒手轮，拆装完成。

## ■ 旋转镜头使用方法

- ① 用附赠扳手拧松镜头旋转机构 (如图)，卡口方可旋转，根据拍摄需求旋转拍摄角度，然后拧紧锁止机构，旋转完成。
- ② 如果需要拍摄360°旋转视角，可将旋转机构拧松，并保持非锁止状态，通过旋转卡口，可进行无级旋转拍摄。



## 规格表

LAOWA FF 24mm T8.0 2X MACRO Pro2Be	
画幅	全画幅
镜头距离	24mm
光圈范围	T8 - T40
对角线视角	85°
像场	φ43.2mm
镜头结构	25组34片 (棱镜1, 反射镜1, 高折射玻璃4, 异常分散玻璃9)
光阑叶片	7片
最近摄像距离 (物像距离)	511mm
最近工作距离 (物体到第一个镜片距离)	4mm
最大放大倍数	2倍
对焦环行程	150°
光圈环行程	50°
合焦驱动方式	手动 (MF)
镜头尺寸(直径/长)	直视: Φ30.4×518mm/35°: Φ30.4×522mm/90°: Φ30.4×320mm
重量 (PL)	直视: 1038g/35°: 1024g/90°: 1068g
卡口	PL口、EF口、E口、L口、R口、Z口


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## Preface

Thank you for purchasing LAOWA FF 24mm T8.0 2X MACRO Pro2Be Lens. This lens is a special macro lens designed for full-frame cameras. It features unusual shape and unique optical design, which offers you extraordinary shooting experiences, enables you to explore new avenues of photography, and captures incredible scenes from a truly unique angle which inaccessible to common macro lenses.



 *For operational safety, please read the manual and precautions carefully before using this product, and keep the manual at a place that is easily accessible when needed. If you encounter a problem that cannot be solved, please ask for technical support through email.*

## Features

- 1.This long and tubular lens barrel could be inserted into places that are difficult for some conventional macro lenses to shot, such as some animal caves, underwater, narrow crevices, etc.
- 2.The lens set consists of three lenses, which are the front group structure of direct view, 35°and 90°. The rear lens group has a 360° rotating mechanism, which can be combined with different shooting angles of the front lens group, so that the shooting angle can be changed to meet the needs of the actual shooting environment.
- 3.The rear group of the lens has a rotating design, which can realize the shooting effect of 360°rotation of the lens without locking the rotating mechanism.
- 4. The front barrel of the lens has a fully waterproof structure. The waterproof design implies that this lens could be used in underwater shooting.

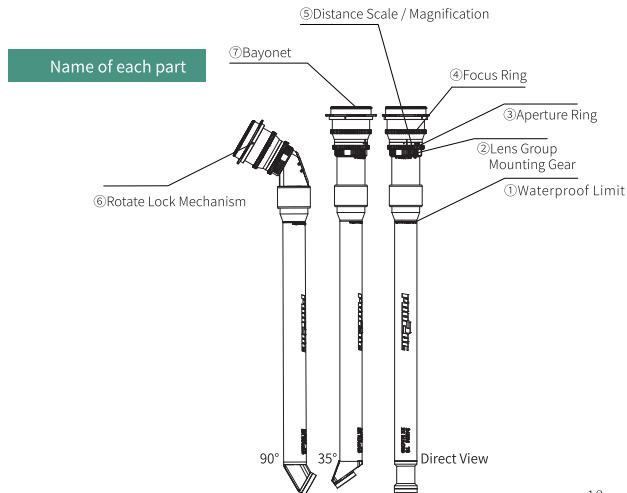
## Precautions

### ■ △ 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.
- The camera's built-in flash will cause barrel shadow if used with this lens. For best results, please only use an external flash unit.

## ■ 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.



## Instructions

### ■ To attach the Lens

Remove the rear lens cap. Align the mounting index ⑦ on the lens bayonet with the mounting index on the camera, and place the lens on the camera mount, then rotate the lens according to the proper direction of the mount type until it locks. 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 attaching the lens, please try to rotate the lens to make sure it mounted onto the camera properly.

### ■ Focusing

This is a fully manual lens. Rotate the focusing ring ④ slowly to get focus.

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

The distance scale ⑤ and magnification are for instructional purposes. Actual focus 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.

Turn on the focus peaking on the camera to help focusing. (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 on the lens to the corresponding aperture.

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

## ■ Focusing Tips

### Method 1 Magnification Priority

- ① Set the magnification first, and then turn the focus ring to the desired magnification mark on the lens.
- ② Check the frame by viewfinder or [Live View] on the camera and try to get focus by moving the camera back and forth until obtaining the proper focal length.
- ③ Rotate the focus ring to achieve precise focus.

### Method 2 Framing Priority

Set the frame first. Turn the focus ring while you are checking the image through viewfinder or [Live View] on the camera, and then follow steps ②, ③ as the method 1 above.

For high magnification close-ups, because of the extremely short working distance, please be careful not to touch the subject. Magnification is the ratio between the size on the camera sensor of an object and its true size.



## ■ Detach the Front Lens Group

- ① Rotate the waterproof barrel cover gear, loosen and remove the front lens group structure (front lens group and waterproof barrel cover are integrated structure)
- ② Remove and replace the front lens group. Screw in the installation thread and lock the waterproof barrel cover gear. Then, disassembly is completed.

## ■ Rotate the Lens

- ① Loosen the rotating mechanism of the lens with the complimentary wrench (as shown in the figure), and the bayonet can rotate. Rotate the shooting angle according to the shooting requirements, and then tighten the locking mechanism to complete the rotation.
- ② If you need to shoot 360° rotating Angle, you can loosen the rotating mechanism and keep it unlocked. By rotating the bayonet, you can take a de-clicked rotation shot.



## Specifications

LAOWA FF 24mm T8.0 2X MACRO Pro2Be	
Format Compatibility	Full frame
Focal Length	24mm
Aperture Range	T8 - T40
Diagonal Angel of View	85°
Image Field	φ43.2mm
Lens Structure	34 elements in 25 groups (Prism*1, Speculum*1, HR*4, ED*9)
Aperture Blades	7片
Min. Focusing Distance(Object Image Distance)	511mm
Min. Working Distance (Distance from Object to the First Glass)	4mm
Max. Magnification	2X
Focus Throw	150°
Aperture Throw	50°
Focus Mode	Manual (MF)
Dimensions	Direct View: Φ30.4×518mm/35°:Φ30.4×522mm/90°:Φ30.4×320mm
Weight (PL)	Direct View:1038g/35°:1024g/90°:1068g
Mounts	PL, EF, E, L, R, Z

