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安徽长庚光学科技有限公司

www.laowalens.com

服务热线: 400-066-1316

企业 QQ: 400-066-1316

Email: sales@laowalens.com

电话Tel: (+86) 0551-69107990

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

LAOWA FF 24mm F14 Special Macro **2X**

使用手册

Instruction Manual

LAOWA 老蛙

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design and specifications at any time without notice and
to the final interpretation of the *Instruction Manual*.



前言

真诚地感谢您选购LAOWA老蛙 FF 24mm F14 Special Macro 2X 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

- LAOWA（老蛙）FF 24mm F14 Special Macro 2X 是一支可以进行特殊角度拍摄的特种微距镜头。
- 镜头外形细长，结构特殊，可深入部分常规微距镜头难以伸入的地方，如部分动物洞穴、水下、窄小的缝隙等。
- 镜头前端采用防水玻璃，可伸入水下20cm进行水下摄影以及视频录制。
- 前端附有拍摄辅助灯，在伸入一些洞穴拍摄的时候可以提供一定的补光。
- 本镜头是全金属结构，质感强，坚固耐用，适合户外恶劣的微距拍摄环境。

注意事项

△ 安全注意事项

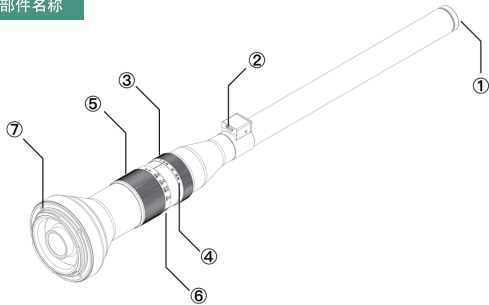
- 切勿自行拆解、修改或改装。当产品由于外力原因破损，切勿触碰外露部分或破损边缘处。
- 切勿放置于直射阳光下、封闭车辆中或其余高温处，否则过高的温度会使镜片和其他部件产生伸缩变形。
- 不使用镜头时，请将镜头前盖盖上或置于没有阳光照射处。凸透镜反射出的光线可能会聚集在附近物体上，导致发生火灾。
- 在逆光拍摄时，切勿将太阳置于画面中心，应该使太阳充分偏离画角，否则阳光会在相机内部聚集并导致火灾或灼伤眼睛。
- 本镜头为35mm全画幅系统镜头，装在APS-C格式照相机上时，镜头画面视角将有所裁切。

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。另此镜头不可装滤镜。
- 本镜头前段第一块防水玻璃附有镀膜，这一涂层会抵制镜头清洁剂的粘附，请在清洁剂时配合专用镜头布使用。
- 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，所以在转移时采取防潮保护措施。

各部件名称



① 拍摄辅助常亮灯

③ 光圈环

⑤ 对焦环

⑦ 镜头卡口

② Micro USB

④ 光圈刻度

⑥ 倍率/距离刻度

使用说明

■ 使用拍摄辅助灯

使用拍摄辅助灯时将电源控制线的Micro USB端插入②，另一端连接输出功率为5V 2.1A的外置电源设备或适配器。

■ 镜头装卸

针对不同厂家的机身请选择对用的卡口，安装方法请参照您使用的机身的镜头装卸方法。

- 本镜头的对焦范围从2倍放大至无限远。
- 为了避免损坏镜头对焦环部件，请勿过猛的旋转对焦环。

使用说明

■ 光圈环

此镜头为无级光圈，方便视频拍摄，光圈范围为F14~F40。

■ 微距对焦

本镜头使用手动方式进行对焦，对焦时，转动 24mm F14 Special Macro 2X 镜头上的对焦环。共有两种对焦方式，一种是先设定放大倍率，另一种是先构定拍摄画面。

- 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。

使用说明

微距对焦方法说明

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。

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，进行上述步骤②、③。

规格表

LAOWA（老蛙）FF 24mm F14 Special Macro 2X	
焦距/光圈	24mm, f/14
最大放大倍率	2X
视角范围	85°
镜头结构	19组27片（高折射率玻璃 1片,异常分散玻璃2片， 棱镜2枚）
光阑叶片	7片
最小光圈	f/40
最近摄影距离（物像距离）	470mm
最近工作距离(物体到第一镜片的距离)	20mm
合焦驱动方式	手动(MF)
镜头前端最大直径	Φ21mm
镜头尺寸（直径/长）	约Φ38X408mm
重量	约474g



PREFACE

Thank you for purchasing LAOWA老蛙 FF 24mm F14 Special Macro 2X Lens. Due to unusual shape and unique optical design, this lens offers you extraordinary shooting experiences, enables you to explore new avenues of photography and to capture incredible scenes from truly unique angle that can be inaccessible to common macro lenses.



△ Prior to use, please read this Instruction Manual thoroughly to ensure proper use. Keep the manual in a place where it can be referred whenever needed. If you are unable to solve a problem by reading the manual, please contact our after-sales service for further technical support.

FEATURES

- LAOWA老蛙FF 24mm F14 Special Macro 2X is a specialized macro lens for you to create stunning images with an unusual angle.
- Featuring slim profile and special construction, this lens can be used in some environments inaccessible to regular macro lenses, such as underwater, narrow cracks or some animal caves.
- With water-repellent glass at the lens front, the lens can reach up to 20cm underwater for producing underwater photos and videos.
- To assist in shooting macro in low light conditions like some caves, the lens comes with an assist light unit at the front of it.
- This lens is all made of metal and feels extremely solid and durable, which works well for close-up photography in severe outdoor environments.

PERCAUTIONS

⚠ Handling Precautions

- Do not disassemble or 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 extremely high temperatures, such as in direct sunlight or an enclosed vehicle. Excessive

- heat may deform the glass elements or 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 center of the frame when shooting with backlight. Sunlight focused on the camera when the sun is in or close to the frame could cause a fire or damage to your eyes.

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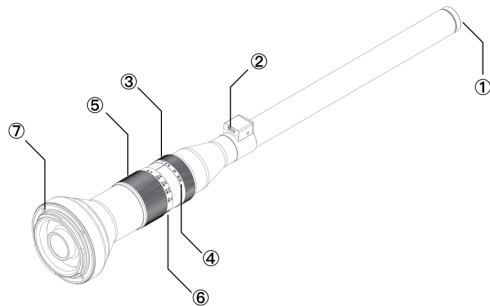
Designed for 35mm Full-frame system cameras, the lens' field of view would be cropped when mounted on APS-C format ones.

PERCAUTIONS

■ Maintenance Precautions

- Avoid touching the lens surface. Remove the dust on the lens surface with a lens cloth or a blower. Keep the lens attached. Please note that filters can not be used on this lens.
- The water repellent coating for the front glass element of the lens contributes to preventing the lens from cleaner adhesion. Please use the lens cleaner, along with a dedicated lens cloth.
- Using a circular motion with a lens tissue or cloth, gently remove oil, fingerprints, and grime from the lens surface, working from the center outward.
- If the lens is taken from a cold environment into a warm one, condensation may develop on the lens surface and the internal parts. To prevent condensation in this case, please take necessary precautions to protect against moisture before moving the lens.

Nomenclature



- | | | | |
|--------------------------|-----------------|---------------------------------|----------------|
| ①Continuous assist light | ③Aperture ring | ⑤Focus ring | ⑦7. Lens mount |
| ② Micro USB | ④Aperture scale | ⑥Magnification / Distance scale | |

INSTRUCTIONS

■ Using the Assist Light

To use the assist light, plug the Micro USB interface of the power cord into Position 2 (Micro USB) , with the other end connected to a 5V 2.1A external power supply or adapter.

■ Attaching and Detaching the Lens

Choose the corresponding lens mount according to your camera body, and refer to the camera's instructions on how to mount and remove the lens.

- *This lens delivers a focusing range from 2X to infinity.*
- *Please gently turn the focus ring to prevent the focusing mechanism from damage.*

INSTRUCTIONS

■ Using the Aperture Ring

The lens features a stepless aperture ranging from f/14 to f/40, making it a good option for video recording.

■ Macro Focusing

As this lens is a manual focus only lens, please turn the focus ring on the lens to get focus. There are two ways of focusing: to set the magnification first or framing the subject first.

- *Please be careful when shooting high magnification close-ups due to the lens' extremely short working distance.*
- *Magnification is the ratio relationship between the size of the subject's projection on the image sensor and that of the subject in reality.*

INSTRUCTIONS

■ Macro Focusing Tips

Method 1 Magnification Priority

1. Set the magnification first, and then turn the focus ring to the desired magnification marked on the lens.
2. Look through viewfinder or Live View, and move the camera back and forth to roughly focus to obtain proper focus.
3. Turn the focus ring to achieve precise focus.

Method 2 Framing Priority

Turn the focus ring while you are looking through viewfinder or Live View, and then follow the above step 2 and step 3.

SPECIFICATIONS

LAOWA (老蛙) FF 24mm F14 Special Macro 2X	
Focal Length/Aperture	24mm / F14
Max. Magnification	2X
Field of View	85°
Lens Construction	27 elements/ 19 groups (High-refractive glass x 1, Low-dispersion glass x 2, Prism glass x 2)
Aperture Blades	7
Min. Aperture	f/40
Min. Shooting Distance (Distance between the subject and image sensor)	470mm
Min. Working Distance (Distance between the subject and the front of the lens)	20mm
Focusing	MF
Lens Diameter	Φ21mm
Dimensions (Diameter/ Length)	Φ38 X 408mm
Weight	Approx. 474g