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FF 24mm T8.0 2X MACRO Pro2Be

使用手册

Instruction Manual

**LAOWA 老蛙**

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Please note we reserve the right to change our product's  
design and specifications at any time without notice and  
to the final interpretation of the *Instruction Manual*.



## 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.

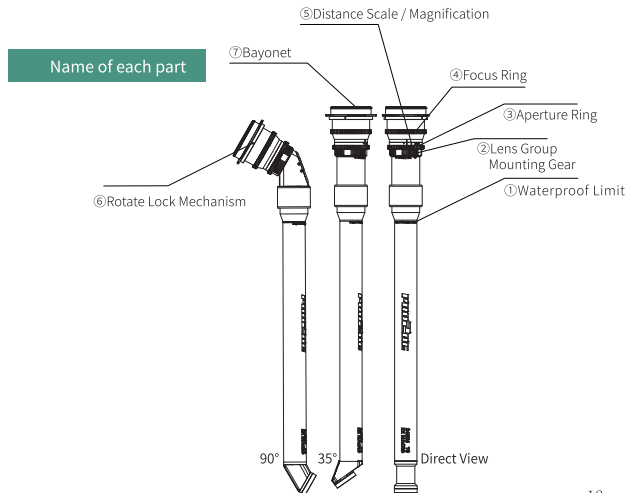
## Precautions

### ■ △ 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

