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Mini FF II 85mm F5.6

**Macro 2:1**

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 very much for purchasing LAOWA Mini FF II 85mm F5.6 Macro 2:1 lens. This lens is designed for full frame system. It supports max 2X macro magnification and has dispersion control ability close to APO . From infinity to macro, it provides excellent image quality and reliable support for users. It can capture very small objects , like insects and jewelry ,etc.



⚠ For safe operation, please read the manual and precautions carefully before you use the product, and place the manual where it is easy to obtain whenever required. If you have any unsolved problem please contact with our after-sales service team for further technical support.

## FEATURES

- LAOWA Mini FF II 85mm F5.6 Macro 2:1 lens is distinct from traditional macro lenses, based on the high-performance image of the full frame system, this lens can take high-resolution pictures from infinity to macro, and the macro mode achieves an amazing 2x object magnification, which is close to the dispersion control of APO, and there is no obvious dispersion at 2x magnification. Higher magnification enables users to have more creative space.
- The lens adopts compact design, and the size is only  $\phi$  53mm\*78mm, weighing 252g, which matches with full frame without reflector camera make it tiny size and portable.
- There are 3 groups of 13 lenses inside, including 3 special decentralized high-quality image glass structures. The surfacial mechanical structure made of 100% metal materials ensures the long-term durability of the lens.

## PRECAUTIONS

### Safety Precautions

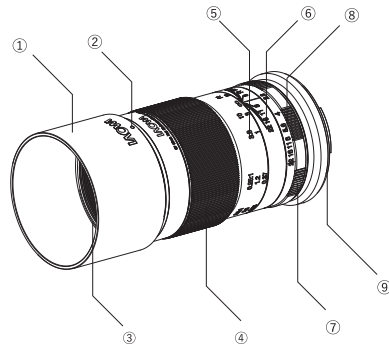
- Do not disassemble, modify the lens by yourself. When the product is damaged due to external force, do not touch the exposed part or damaged edge.
- Do not leave the lens exposed to sunlight and closed vehicle or other high temperature places, otherwise excessive heat may deform the glass elements and other parts of the lens.
- When you do not use the lens, please cover front cap or leave it in a shade place, convex lens reflects light may be gathered on near objects and causes a fire.
- Do not place the sun in the frame center when shooting with backlight, you should make the sun deviates from the center to the corner, otherwise sunlight will be gathered in the camera and cause a fire or burn your eyes.
- The camera's built-in flash will cause vignetting because the lens shelters light. It is recommended you use external flash.

## PRECAUTIONS

### ■ Long-term maintenance and precautions

- Do not touch the lens contacts. Clean by a lens cloth or a blower to remove the lens dirt. Always place the lens cap on the lens when storing.
- When you use lens paper or lens cloth to clean, remove the dirt and fingerprints on the lens from the middle to the outside in a spiral way.
- When the lens is suddenly transferred from a cold environment to a warm environment, the external and internal lenses will condense water mist, so moisture-proof protection measures should be taken during the transfer.

## COMPONENT



- ① Lens hood
- ② Lens hood mounting mark point
- ③ Filter (lens cap) mounting thread
- ④ Focus ring
- ⑤ Distance (magnification) scale

- ⑥ Depth of field scale
- ⑦ Aperture ring
- ⑧ Aperture scale
- ⑨ Lens mounting mark (on the bayonet)

## INSTRUCTIONS

### ■ To install the Lens

- Remove the rear lens cap. Align the mounting mark⑨ on the lens bayonet with the mounting mark on the camera, then insert the lens into the camera seat ring and rotate it in the direction for your lens version 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 the lens release button on the camera, rotate the lens in the opposite direction , then detach the lens from seat ring .
- After installation of the lens, please try to rotate the lens to make sure it mounted onto the camera properly.

## INSTRUCTIONS

### ■ Installation/remove lens hood

- Align the mounting mark② on the lens hood with the lens. Turn the hood clockwise until it locks.
- For removing lens hood, rotate it counterclockwise.
- It is recommended that you use a lens hood to reduce strong light and protect the front elements.
- Lens hood may be unavailable when using certain filters.
- When storing, turn over the lens hood and place it onto the lens backward.
- When shooting with a flash, the lens hood may block light and cause vignetting. So when shooting with the camera's built-in flash or with the external flash unit that is not high enough, please remove the hood before shooting, or selecting a exclusive macro ring flash is also a great option.

## INSTRUCTIONS

### Focusing

- This is a **fully manual** lens. Rotate the focusing ring④ slowly to get focus.
- Turn the focus ring **slowly** and **gently** to prevent the focus mechanism from damage.
- The distance scale⑤ and depth of field scale⑥ are for instructional purposes. Actual focus and DOF may slightly differ from those scale indications.
- To get precise focus, it is recommended to focus through max aperture when the camera position is fixed. After finish focus , then set the desired aperture by rotating the aperture ring.
- For the focus convenience,please turn on peak focus function on the camera (Note that the function depends on camera models.)
- This lens has Leica M bayonet,which can realize rangefinder focus,but because of rangefinder focus within 70cm,especially take photo by marco distance,it needs get focus through the screen or according to users experience to get focus through finder.

## INSTRUCTIONS

### Setting the Aperture

- Aperture is set through the camera. According to the shooting situation and desired depth of field, rotate the aperture ring⑦ on the camera body to the corresponding aperture.
- Since the lens has no CPU data, the aperture value can not be recorded.
- Because aperture is adjusted manually, shutter priority function can not be used better,but aperture priority mode can be used( metering accuracy depends on the camera model).

### Macro Shooting Mode

- The max magnification is 2:1 and the minimal focus distance is 16.3cm. The minimal distance from the object to the first of the lens is about 9cm.

## INSTRUCTIONS

### Focusing Tips

#### Method 1

Set the magnification first, then to get focus.

- ① Set the magnification first, and then turn the focus ring to the desired magnification scale 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

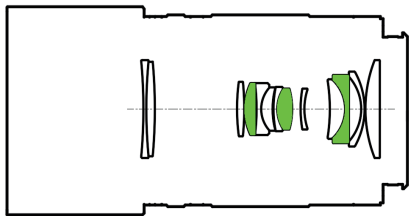
Set the frame first, then through viewfinder or Live View to check the image, at the same time to rotate focus ring. After constructing the shooting picture then make focus method 1 ②③ step.

- For high magnification shooting, extremely short working distance of the lens, it is very easy to touch the objects, please be careful.
- Magnification refers to the proportional relationship between the size of an image recorded on a sensor or film to the actual size of the object.

## SPECIFICATIONS

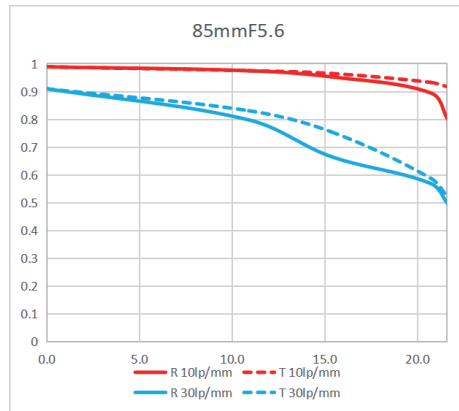
LAOWA Mini FFII 85mm F5.6 Macro 2:1	
Lens No.	LAOWA Mini FFII 85mm F5.6 Macro 2:1
Frame	Full Frame
Focal Distance	85mm
Aperture Range	F5.6-22
Angle of View	28.55°
Lens Structure	Nine groups 13PCS( three ED glasses)
Diaphragm Blade	7PCS
Min. Shooting Distance	16.3cm
Max. Magnification	2X
In-focus Driving Mode	Manual(MF)
Filter Dimension	Φ46mm
Lens Dimension(Lecia M)	About φ53mm*78mm
Weight(Lecia M)	About 252g (exclude hood and front and back caps)
Mounts	Leica M, Sony E, Canon R, Nikon Z

## LENS CONSTRUCTION



● Extra-low Dispersion Glass

## MTF





LAOWA

NEW IDEA . NEW FUN.