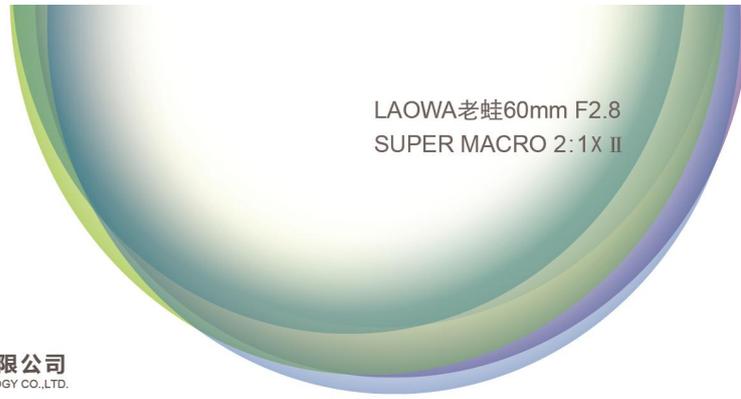




深入了解老蛙



LAOWA老蛙60mm F2.8
SUPER MACRO 2:1X II

使用手册
Instruction Manual

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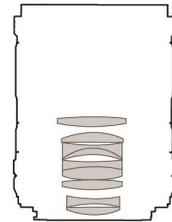
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网址: www.laowalens.com

LAOWA 老蛙

LAOWA 老蛙

真诚地感谢您选购LAOWA老蛙60mm F2.8
SUPER MACRO 2:1XII! 为了让您充分理解本
产品的使用方法和注意事项, 请您在使用前
仔细阅读本说明书。



使用说明

• 1/ 镜头的装卸

请根据各品牌相机机身的具体说明安装镜头, 安装时请将镜头上的卡口标识对准相应机身上的卡口标识旋转装入, 安装时请不要用力过猛, 以免导致卡口损伤。

• 2/ 对焦方式

此款镜头是全手动对焦镜头, 对焦时, 缓慢旋转对焦环, 不要过猛过快地旋转对焦环, 以免用力过猛损坏对焦环部件。

• 3/ 摄影说明

一般摄影模式

35mm格式换算此款镜头相当于约90mm的中望远镜头的视角, 可以拍人像特写等。

使用说明

微距摄影模式

最大放大倍率为2:1倍, 最近对焦距离为18.5cm, 从被拍物体镜头前端距离最近约5cm。

合焦方法可以分构图优先和倍率优先。

(构图优先摄影: 观看取景器中画面优先考虑构图, 然后手动合焦。)

(倍率优先摄影: 将放大倍率设定好, 前后移动脚架云台式机身及镜头合焦。)

• 4/ 光圈使用方法和测光方式

尼康卡口

若要实现自动测光功能, 必须要在机身的非CPU菜单下设定最大光圈和焦距。然后将需要的光圈, 在镜头上预先设定, 就可以实现自动测光。如若镜头没有安装指示红点, 请用镜头上光圈指示线对准机身安装点进行安装。

使用说明

宾得卡口

机身可以读取光圈信息，不需要设定光圈，如果使用光圈优先模式的时候，请将光圈手轮拧到A位置，此时，可以在机身上调节光圈，实现自动测光功能，A以外的刻度，可以按住机身的绿色预览按钮实现测光。

其他卡口

A档可以自动测光，但是没有光圈信息。

注意事项

△安全注意事项

- 使用本镜头拍摄时，请避免将镜头直接对着太阳和强光，以防灼伤眼睛或者烧坏相机的CCD/CMOS。
- 在太阳或者强光下，不使用镜头或者安装好镜头的相机时，最好将镜头盖子盖好，以防磨损镜头或灼伤CCD/CMOS甚至引发火灾。

△使用注意事项

- 镜头从寒冷的环境突然转移到温暖的环境时，镜头的外部以及内部镜片将会凝结水雾，所以请做好防水、防湿保护。
- 防止强光直接照射、暴晒，过高的温度会使镜片和个别部件伸缩变形，出现预想不到的故障。

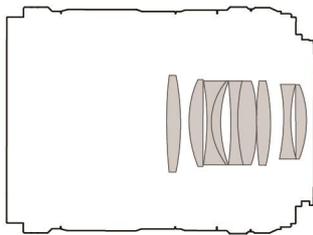
产品特点

- 1) LAOWA老蛙60mm F2.8 SUPER MACRO 2:1X II 是针对APS-C画幅设计的数码单反交换式镜头，从无穷远到2 : 1倍摄影倍率均可很好成像的超微距镜头，无需附加增倍镜就可以实现惊人的2倍放大倍率。
- 2) 为保证从无穷远到近距离优异的成像素质，此镜头采用了主合焦组和辅助合焦组两组移动合焦组，彻底地修正了因合焦而引起的像面弯曲，球差等像差的过度产生，不论是无穷远还是近距离的成像性能，均是此规格微距镜头的上佳性能。
- 3) 此款镜头的机械结构全部采用金属部件，确保了镜头的组装精度和耐用性。
- 4) 每块镜片均采用低反射多层镀膜工艺，极大的消除了鬼影和眩光。换算成35mm规格，可覆盖相当于约90mm的视角，倍率相当于惊人的3倍。
- 5) 为实现润滑自然的前后离焦虚化背景，充分的考虑到因球面像差引起的亮边轮状、光斑，修正了因慧差引起的拖尾光斑和因像散产生的二线虚化背景。

镜头规格

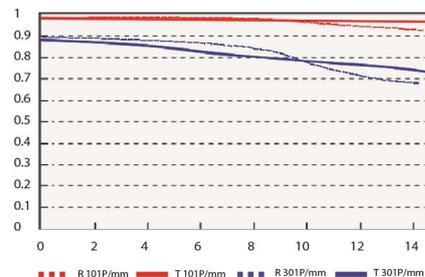
镜头编号	LAOWA 60mmF2.8 SUPER MACRO 2:1 II
焦点距离	60mm
画幅	APS-C
最大光圈	2.8
视场角	25.3°
镜头结构	7组9片
光阑叶片	7片
最小光圈	22
最近摄影距离（物像距离）	18.5cm
最大放大倍率	2.0倍
合焦驱动方式	手动（MF）
滤镜直径	62mm
镜头尺寸（直径/长）	约Φ87×70毫米
重量（不含罩子）	约510克

光学结构图

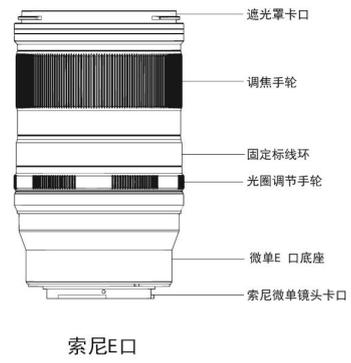
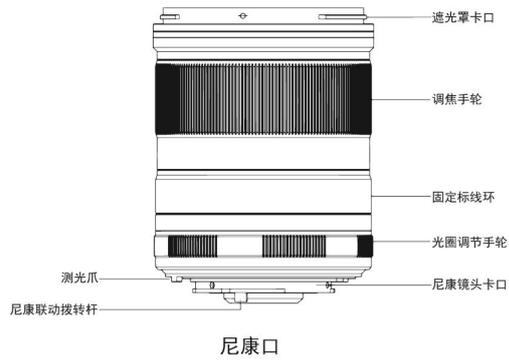


● Extra-low Dispersion Glass

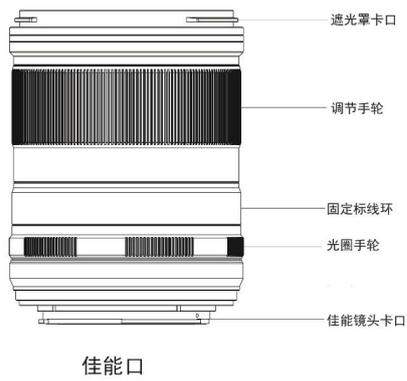
MTF性能图



各部件名称



各部件名称



Facebook

LAOWA60mm F2.8
SUPER MACRO 2:1 X II

INSTRUCTION
M A N U A L

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FAX : (+86)551- 68100252

URL : www.laowalens.com

LAOWA 老蛙

INSTRUCTIONS

• 1 / Lens Assembling & Disassembling

Select the corresponding mount according to the camera body, and refer to the usage instructions on the body provided by the maker for the assembly method.

• 2 / Focusing Mode

The lens is of a fully-manual focusing type; at the in-focus, slowly turn the focusing ring and do not make a hard and rapid movement to avoid damaging the component.

• 3 / Shooting Instructions

General Mode

Converted into a 35mm format, the lens, equal to a prospective of a medium and telephoto lens of about 90mm, can be used for shooting a portrait close-up. etc.

LAOWA 老蛙

INSTRUCTIONS

Macroshot Mode

The maximum image magnification is 2:1, the minimum shooting distance is 18.5cm, and the shortest distance between an object and the front end of the lens is about 5 cm. The in-focus method includes a composition priority and a magnification priority.

(Composition-priority shooting: look at the picture in the viewfinder, prioritize the composition, and then manually do the m-focus.

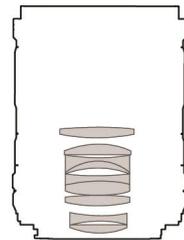
(Magnification priority shooting: set the magnifying power and use the gimbal for in-focus.)

• 4 / Metering Method

Nikon

Select Non-CPU Lens Data, set the maximum aperture and focal length. (Note: On Nikon camera bodies, there is no exact match for 12mm focal length, use the closest one of 13mm.) Then set the aperture value as required by adjusting the aperture ring on the lens to automatically match the correct exposure.

Thank you for purchasing LAOWA
60mm F2.8 SUPER MACRO 2:1 X II .
Please read the instructions carefully
before use to familiarize yourself with
the lens thoroughly.



INSTRUCTIONS

Pentax

In Aperture Priority Mode, turn the aperture ring to a special "A" position which allows the camera to control the aperture setting without using the aperture ring on the lens to get automatic exposure. Or measuring the light by directly pressing the Green Button on a Pentax camera body to obtain accurate exposure.

Other Camera Systems

In Aperture Priority Mode, set the aperture and let the camera automatically adjust shutter speed for optimal exposure. Note that there is no chip in the lens to communicate aperture information to the camera

PRECAUTIONS

⚠ Safety Precautions

- Do not look at the sun or a bright light source through the lens or camera in case that it may cause damage to your eyesight or CCD/CMOS of the camera.
- Whether the lens is attached to the camera or not, do not leave the lens under the sun without the lens cap attached to prevent the lens from abrasion or concentrating the sun's ray, which may even cause a fire.

⚠ Handling Precautions

- If the lens is taken from a cold environment into a warm one, condensation may develop on the lens surface and its internal parts. To prevent the condensation in this case, keep the lens in a dry environment.
- Do not leave the lens in excessive heat in direct sunlight. High temperature can cause the lens to deformation or malfunction.

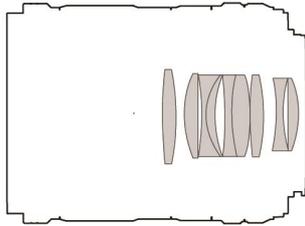
FEATURES

- 1) LAOWA60mm F2.8 super macro 2:1 X II. is an interchangeable DSLR one designed for APS-C size, a super macro lens capable of producing fine images from infinity to 2:1 magnification and realizing an amazing 2-fold magnification with no barlow attached.
- 2) To ensure the fine image from infinity to a close range, the lens adopts moveable in-focus groups, a prime one and an auxiliary one, which drastically correct the excessive field curvature and spherical aberration due to in-focus. For the imaging at infinity or a close distance, the lens will display its fantastic performance.
- 3) The mechanical structure of the lens uses metal components, ensuring the assembly accuracy and reliability.
- 4) for each lens, low-reflection multi-layer film is adopted to completely erase the ghosting and flare. When converted into a 35mm specification it can cover a view angle of about 90 mm. the magnification being amazingly 3 times.
- 5) To realize the lubrication of natural backgrounds in back and front out-of-focus blurring, full consideration has been given to the round-shaped spots on the brightened margin caused by spherical aberration, and the tailing flares arisen from coma and the two-line blur from astigmatism are thus corrected.

SPECIFICATIONS

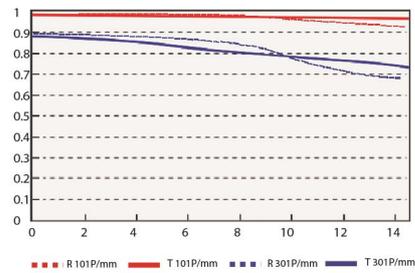
Model	60mm F2.8 super macro 2:1X II
Focal Length	60mm
Aperture Range	F2.8—F22
Angle of View	25.3°
Lens Construction	7 Elements/9 Groups
Aperture Blades	7
Minimum Shooting Distance	18.5cm
Maximum Magnification	2X
Focusing Mode	MF
Filter Thread	62mm
Dimension ((Diameter / Length)	Φ87×70mm
Weight (Lens hood excluded)	510g

PERFORMANCE DESIGN

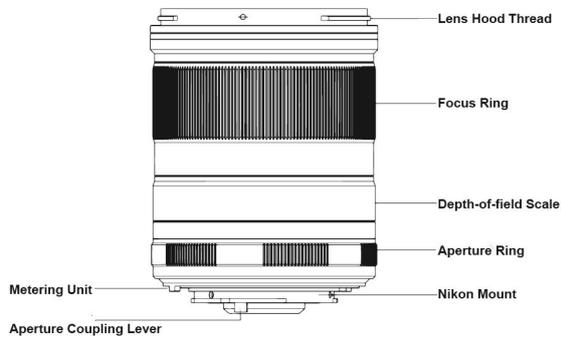


- Extra-low Dispersion Glass

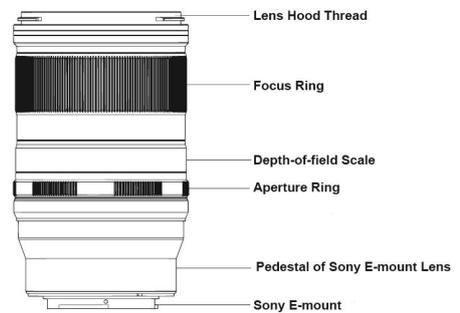
MTF CHART



各部件名称

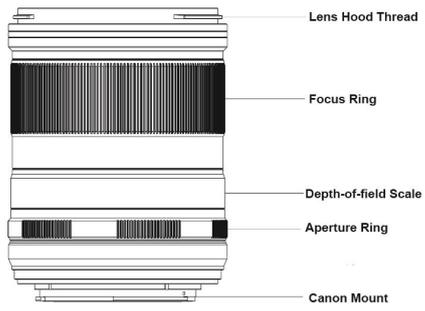


Nikon Mount



Sony E-mount

各部件名称



Canon Mount