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LAOWA MFT 9mm F2.8 C&D-Dreamer

使用手册

Instruction Manual

LAOWA 老蛙

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to the final interpretation of the *Instruction Manual*.



前言

真诚地感谢您选购老蛙（LAOWA）MFT 9mm F2.8 C&D-Dreamer 无反镜头。此镜头是M4/3系统下的超广角镜头，拥有100°超广视野，主打零畸变光学设计，让你在便携的同时拥有更放心的画质和成像体验。



△ 为了操作上的安全，使用本产品前请务必仔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服务电话获取技术支持。

主要特色

- 9mm F2.8拥有M4/3系统的100°超广视角，可以拍摄等效18mm全画幅超广角视野。
- 零畸变光学设计，可拍摄近似零畸变的画面，在建筑拍摄领域可提供优异的成像体验，免去了后期二次裁剪校正。
- 此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。
- 9mm F2.8镜头体积小巧，仅约193g的重量，节省了背包空间，减轻了使用者的负担。
- 镜头每块镜片均采用低反射多层镀膜，尽可能的消除了鬼影和眩光，且前端镜片采用蛙眼仿生镀膜FEC (Frog Eye Coating)，使水滴、脏物不易附着。
- 为解决超广角大光圈带来的色散问题，此镜头采用了3枚异常分散镜片 (ED Glass)，有效的降低了色散像差。

注意事项

△ 安全注意事项

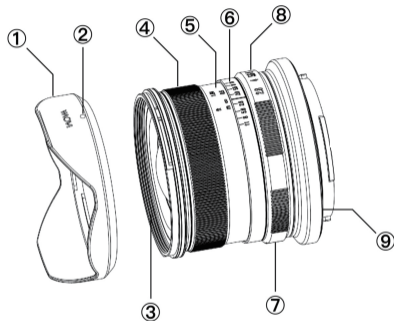
- 切勿自行拆解、修改或改装。当产品由于外力原因破损，切勿触碰外露部分或破损边缘处。
- 切勿放置于直射阳光下、封闭车辆中或其余高温处，否则过高的温度会使镜片和其他部件产生伸缩变形。
- 不使用镜头时，请将镜头前盖盖上或置于没有阳光照射处。凸透镜反射出的光线可能会聚集在附近物体上，导致发生火灾。
- 在逆光拍摄时，切勿将太阳置于画面中心，应该使太阳充分偏离画面角，否则阳光会在相机内部聚集并导致火灾或灼伤眼睛。
- 在使用相机内置闪光灯拍摄时，由于镜头本身会遮挡光线而产生渐晕，因此建议您使用外设闪光灯拍摄。
- 该镜头重量设计不能很好的支持禅思X5云台相机，如强行使用，导致一切后果自负。

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



- | | | |
|------|----------|----------|
| ①遮光罩 | ②遮光罩安装标记 | ③滤光镜安装螺纹 |
| ④对焦环 | ⑤距离刻度 | ⑥景深指示刻度 |
| ⑦光圈环 | ⑧光圈刻度 | ⑨镜头安装标记 |

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⑨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。

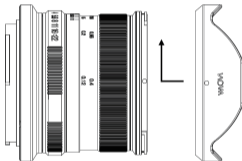
- 装上镜头后，请尝试旋转镜头确认是否已将其固定在相机上。
- 由于此为非CPU镜头，无法提供数据信息，所以请在相机内开启“无镜头释放快门”功能。

使用说明

■ 遮光罩装卸

将遮光罩上的安装标记②对准镜头上的遮光罩安装点，然后顺时针旋转遮光罩，直至锁紧末端为止。

如要拆卸遮光罩，按相反方向旋出即可。



- 安装遮光罩可减少强光并保护镜头前部元件。
- 安装某些滤光镜后，您可能无法再使用遮光罩。
- 若不使用遮光罩时，可将遮光罩反向安装于镜头上。
- 利用闪光灯拍摄时，遮光罩可能遮挡住光线而造成影像上的渐晕现象。所以在使用相机闪光灯或使用高度不够的外置闪光灯时，请拆卸遮光罩后再进行拍摄。

使用说明

■ 对焦

此款镜头是全手动对焦镜头，合焦时，缓慢旋转对焦环④，直至合焦。

- 不要过猛过快地旋转对焦环，避免用力过度损坏对焦环部件。
- 镜头上的距离刻度⑤与景深刻度⑥是出于指导目的。实际焦点与景深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）。

使用说明

■ 光圈使用方法

光圈在镜头上调节，根据拍摄环境和与所需要的景深，转动光圈环⑦来选择对应的光圈。

- 由于此镜头无CPU数据，所以暂时无法记录光圈参数。
- 由于光圈为手动调节，无法较好的使用快门优先模式，但可以使用光圈优先模式（测光准确度视相机型号而定）。

LAOWA MFT 9mm F2.8 C&D-Dreamer	
画幅	M4/3
焦距	9mm
视角范围	100°
最大光圈	2.8
最小光圈	22
镜片结构	10组15片(玻璃非球面2枚, 异常分散镜片3枚)
光阑叶片	7
最近摄影距离(物像距离)	12cm
最大放大倍率	0.13倍
合焦驱动方式	手动 (MF)
滤镜直径	49mm圆形滤镜
镜头尺寸 (直径/长)	Φ53mm×60mm
重量	约 193克


 LAOWA 老蛙

PREFACE

Thank you very much for purchasing Laowa MFT 9mm F2.8 C&D-Dreamer lens, which is designed for M4/3 system cameras. The lens produces a 100° angle of view, features optical design of zero distortion, delivering higher image quality and lighter shooting experience.

△ *For operational safety, please read this instruction manual thoroughly and place the manual where it is easy to obtain when needed. Please contact customer service for technical support in case of any unsolvable problems.*



FEATURES

- 9mm F2.8 offers 100° wide angle of view, it gives focal length of 18mm-equivalent full frame.
- Zero-distortion optical design offers distortion-free image quality and excellent architecture shooting experience.
- Full-metal construction ensures the lens' assembly precision and long-lasting durability.
- The lens is small in size and only about 193g in weight, greatly saving space and reducing users' burden.
- Multi-layer low-reflective coatings are applied to each glass element to eliminate ghosting and flare. The Frog Eye Water-repellent Coating "FEC", is applied to the front element of the lens, protecting it from water droplets and smudges.
- 3 pieces of ED glasses are applied to minimize chromatic aberration.

PERCAUTIONS

■ Handling Precautions

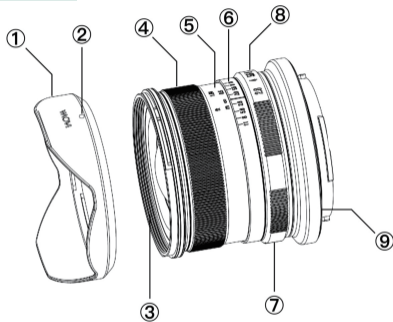
- Do not disassemble or modify the lens by yourself. If it is damaged by external force, do not touch any exposed part of the lens.
- Don't expose the lens to excessive heat such as direct sunshine or a parked car as this may deform the lens elements and other mechanism.
- Close the front cap of the lens or prevent the lens from exposing sunlight when it is not in use. The light reflected by the convex lens gathering on a nearby object can cause 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.
- When shooting with the camera's built-in flash, the lens itself may block light and cause vignetting, an external flash is recommended in such case.
- The lens cannot be adapted to DJI X5 cameras, users bear any unexpected consequences arising from forcing usage.

PERCAUTIONS

■ Maintenance Instructions

- Avoid touching the lens surface and apply lens cloth or air blow to remove dust from it. Close the lens cap when it is not in use.
- Gently remove any dirt and fingerprints by rubbing the lens surface in spiral motions (from center to the periphery) with lens tissue or cleaning cloth.
- When the lens is taken from a cold environment into a warm one, condensation may develop on the surface and internal parts of the lens, so moisture protection should be taken when transferring.

NOMENCLATURE



1. Lens hood 2. Lens hood mounting index 3. Filter thread
4. Focus ring 5. Distance scale 6. Depth-of-field indicator
7. Aperture ring 8. Aperture scale 9. Lens mounting index

INSTRUCTIONS

■ Mounting the Lens

Remove the lens rear cap. Align the Mounting index⑨ on your lens with the matching mounting index mark on the camera. Insert the lens into the camera and turn the lens in the attachment direction until it locks with a "click". Do not apply too much force in case of damage to the Mount.

■ Detaching the Lens

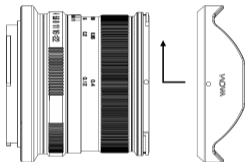
Turn the camera off and press the lens' release button on the camera, turn the lens in the direction opposite to that for attaching, and pull it out.

- *Gently turn the lens back and forth to ensure that the lens is fully attached to the camera.*
- *Turn on the "lens-free shutter release" function in the camera, as it is a non-CPU lens, data information cannot be provided.*

INSTRUCTIONS

■ Mounting and Detaching the Lens Hood

Keep the Lens hood mounting index ② and the mounting dot on the camera aligned, and then turn the lens hood clockwise until it clicks into place.



- For the need of detaching the lens hood, please turn the lens hood in the direction opposite to that for attaching.
- The lens hood helps reduce lens flare and protects the lens front element from damage.
- Lens hood may be unable to be attached if some certain filters have been used with the lens.
- If not using the lens hood, you can also place it backwards over the lens.
- When shooting with a flash, the lens hood may block light, which may cause vignetting. So when shooting with camera's built-in flash or with the external flash unit that is not high enough, please remove the lens hood before shooting.

INSTRUCTIONS

■ Focusing Instructions

Focus by turning focus ring ④ as it is a manual focus only lens.

- Do not apply too much force when turning the focusing ring or moving it too quickly in case of any damage.
- The distance scale ⑤ and the depth-of-field indicator ⑥ on the lens are for instructional purpose. Actual focus and depth-of-field may be slightly different from the scale.
- For the need of extremely precise focus, please fix the camera position and focus with a wide-open aperture. Get focus first and then set the required aperture.
- To facilitate focusing, please turn on [Focus peaking] in the camera setting (depending on the function of your camera).

INSTRUCTIONS

■ Aperture Instructions

Turn the aperture ring ⑦ on the lens to choose the corresponding aperture according to the shooting situation and desired depth-of-field.

- As a Non-CPU lens, the camera cannot record the actual aperture value.
- Since this is a manual lens, aperture-priority mode is recommended to be used. (Metering accuracy will depend on the camera)

SPECIFICATIONS

LAOWA MFT 9mm F2.8 C&D-Dreamer	
Format	M4/3
Focal Length	9mm
Angle of View	100°
Max. Aperture	2.8
Min. Aperture	22
Elements/Groups	15/10 <small>(Including 2 pcs x Aspherical glass&3 pcs x ED glass elements)</small>
Aperture Blades	7
Min. Shooting Distance	12cm
Max. Magnification	0.13X
Focusing	Manual Focus (MF)
Filter Diameter	Φ49mm
Size(diameter/length)	Φ53mm×60mm
Weight	About 193g