

Tokina

INSTRUCTION MANUAL
BEDIENUNGSANLEITUNG
MODE D'EMPLOI
BRUKSANVISNING
MANUAL DE INSTRUCCIONES
使用説明書

500mm f/8

TM
500



English

Description of Parts

1. Focusing Ring
2. Distance Scale
3. Distance Index
4. Mount

We would like to congratulate you to your excellent choice which you showed when you bought this lens. The Tokina TM500 incorporates two mirror elements as a part of the entire optical composition plus it is the worlds most light-weight and compact 500 mm-lens presently available. Not only has the chromatic aberration been reduced to an invisible minimum but also the overall definition and resolution has been marginally improved. Even in Infrared Photography there is no need for any focusing compensation. A Tokina lens will always gives you upon hour of virtually unlimited photographical enjoyment. But before you apply your lens, please take a few minutes to read this manual carefully, so you understand the features and advantages of your lens fully. Remember, proper handling and the right maintenance will prolong the life of such a high-precision instrument as this lens is.

Features and Functions

The most compact and most lightweight 500mm-lens available today.

The overall diameter of this lens is only 78mm, and the overall length (from P-Mount to Barrel-Fringe) is only 88.2mm. And its weight of only 462 gram makes this precision lens the most compact and lightweight presently available.

Continuous Focusing

From the minimum focusing distance of 1.5m to infinity this lens is operated with continuous focusing, using a Helicoid Screw. The maximum magnification ratio at 1.5m is $M = 1:2.5$.

Fixed Aperture

The preset aperture of $f/8$ does not require any trouble-some calculations, since it is a real aperture from the nearest focusing point to infinity. Even if you operate your TM500 with a flash unit, all you need to do is to follow the guide-number given by the flash and your exposure is always correct.

Fixed Mount

To achieve the highest possible standard, we have manufactured your mirror lens with a fixed mount for your camera, which results in a higher precision than conventional interchangeable mounts can offer.

How to use your Tokina TM500 Mirror lens

How to attach the lens to your camera:

This lens comes with a fixed mount especially designed to fit your camera and is thus attached in the same fashion as your camera's original lenses. And to make this operation even easier, we have designed a special Mounting-Ring.

Manual Photography:

Since this lens is very compact, it easy to make the mistake to treat it like an ordinary lens. But because of its narrow angular field of $4^{\circ}57'$, the minimum shutter speed should, if possible not be set lower than $1/500$ sec. otherwise handshake might distort the picture.

Tripod Photography:

Use only big, stable tripods and a fix your camera properly and securely. We also recommend the use of a cable release, to eliminate even the last trace of camera vibration.

Focusing:

You simply focus the lens by turning the focusing ring while you watch your subject through the viewfinder. Since the aperture is preset to $f/8$, you will find that under certain light conditions a shadow will appear on the split-image section of your focusing screen. If your camera does not allow the changing of the viewfinder, simply focus on the edges of your subject with the outer center of your fresnel prism.

If you want to use the TM500 as a close-up lens, it is then recommendable to practice focusing first before you apply this lens to close-up photography, and the use of a Focus-Magnifier is adviseable, since the depth-of field range under such conditions becomes extremely narrow.

Under certain, temperature-related circumstances such as extreme heat or extreme cold, the barrel of the lens may stretch or shrink. Although this will not be noticeable to the eye, it can result in a change of the focal point of the lens. To compensate for such cases, Tokina engineers have designed the focusing ring so that you can use it beyond the final marks on either side of the distance scale. But to avoid mistakes during ordinary conditions you should always focus while checking the image through the viewfinder.

Lens Hood

You find a separate lens hood with your TM500 and we strongly recommend its use. It will protect your lens from unwanted side-light and flare and thus give you a better, more defined image. The hood, for easy carrying, has been attached upsidedown to the lens all you have to do is to remove it and screw it into its proper position.

When to detach a hood unscrew it.

Changing Filters:

All optional and included filters have a thread-diameter of 35.5mm and are attached to the rear of the lens. Thus for a filter change you must first remove the lens from the camera. To screw a filter into place, please tighten it gently with the supplied filter-key, turning it clockwise. And counter-clockwise to remove it. A skylight-filter, ND-2x and ND-4x have been included with this 500mm lens unit, and they are packed separately with the lens. Select among them according to the requirements of the photographic situation and attach it to your lens as described above.

Note: Design and size of the flange of this lens are such as to be used with a filter only. The thickness of each filter has been carefully adjusted as to suit the optical characteristics of the lens components. You should therefore maintain one filter constantly attached to your lens.

Separately available for this lens are two optional filter sets, exclusively designed for the TOKINA 500mm lens (See page 6).

To enjoy all the possibilities of the 500mm lens and for a long term usage we recommend the application of these exclusive designed filters.

Exposure:

a) With a TTL-Camera:

Since the aperture on the TM500 cannot be changed, the exposure control relies totally on the shutter-speed in use. You thus set the speed-dial according to your TTL measurements. In case of automatic cameras, whether they are base on aperture- or shutter-speed-preference, your camera will automatically set the right speed with its auto exposure mechanism, except a few models which will than be operated as a manual camera. If yours is a manual TTL camera, then simply follow the exposure indications in the viewfinder, (LED or match-needle) by compensating with the shutter-speed. In case of too much light, when you can no longer speed up the shutter, attach the ND-2 or ND-4 filter in the prescribed fashion and thus reduce the overall light-intake!

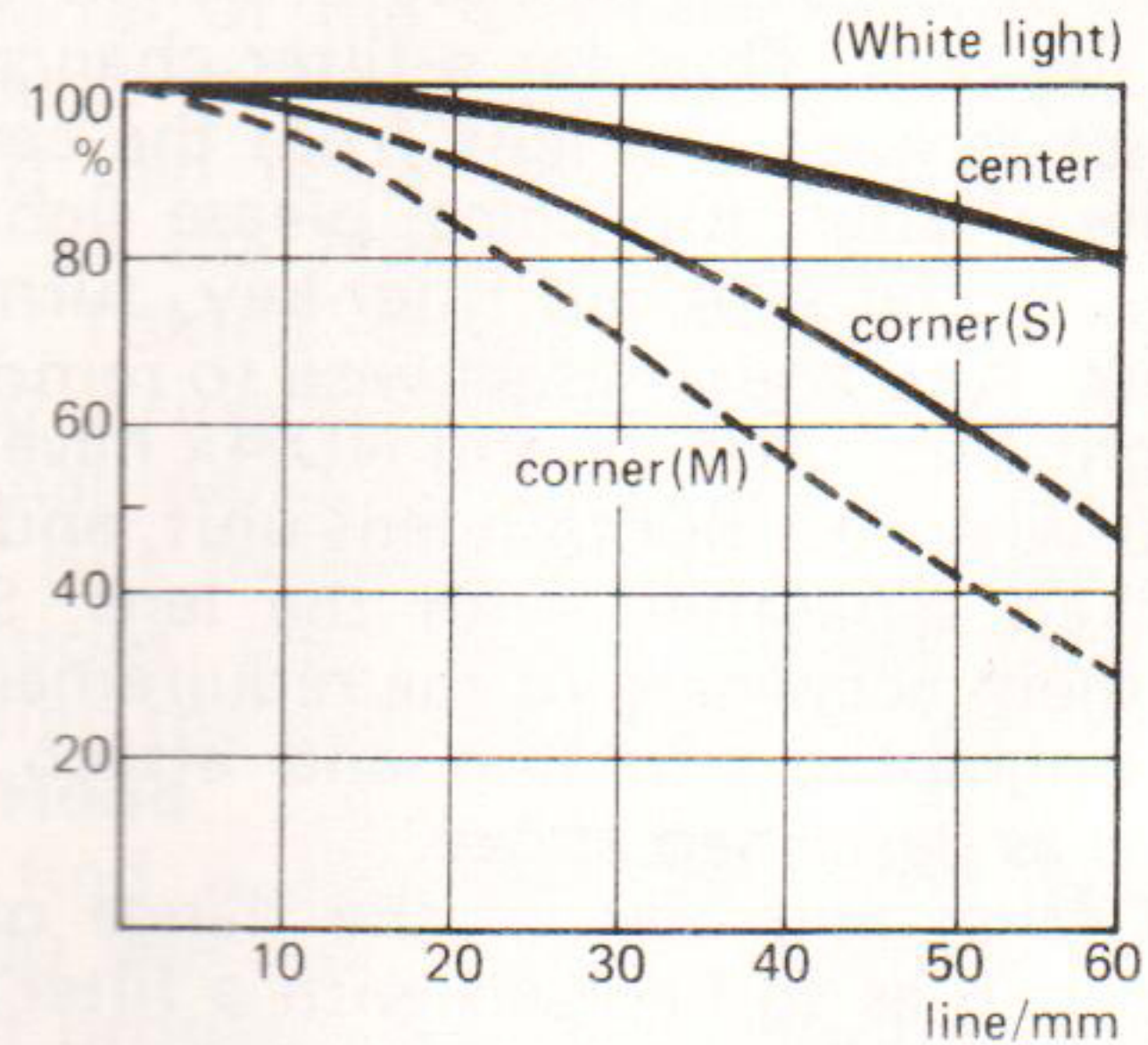
● For coupling pin type Nikon cameras, not AI type ones, the exposure is metered by stop-down.

b) Other cameras:

If yours is other camera that, although it features interchangeability of the lenses, does not have a TTL metering system, you then have to recalculate the correct exposure whenever you use a filter, according to the chart given below.

Filter	colour	daylight filter value	tungsten filter value
Skylight	colourless	1	1
ND-2	light grey	2	2
ND-4	grey	4	4

MTF (Modulation Transfer Function)



The Guide to the Optional Filters

Filterset 1 (for colour photography)

	A2 amber	A12 amber	B2 blue	B12 blue
daylight	1.2	2.2	1.2	3
tungsten	1.2	2.2	1.2	3

Filterset 2 (for b/w photography)

	UV colourless	Y48 Yellow	O56 Orange	R60 red
daylight	1	2	4	8
tungsten	1	1.5	3	4

Maintenance and Storage

Never touch the surface of your lens with your fingers or wipe the dirt off with any odd cloth. If your lens gets dusty, use a blower-brush. When you don't use the lens keep it well covered to prevent dust and dirt to enter the lens or clot its surfaces, using the accessory lenscaps.

In the case of accidentally leaving a fingerprint on the lens, use liquid lens cleaner, moisture a lens-cleaning tissue and wipe the surface very, very gently. Then use a second, dry tissue to dry the lens.

If you are storing the lens for some time make sure that the place is dry and cool. High temperatures and humidity can damage the precision mechanisms inside the lens.

This lens is a high precision instrument and merits proper care. Avoid dropping the lens or other damaging accidents.

Deutsch

Beschreibung der Teile

1. Schärfereinstellring
2. Zentrums-Index
3. Entfernungsindex
4. Kamera-Anschlußfassung

Wir möchten Sie zu Ihrer exzellenten Wahl, die Sie mit diesem Objektiv getroffen haben, beglückwünschen. Dieses Spiegeltele basiert auf dem Doppelspiegel-Prinzip und verfügt daher über zwei Spiegelelemente innerhalb des optischen Aufbaues. Und darüber hinaus ist es derzeit das leichteste und kompakteste Spiegeltele auf dem Markt.

Chromatische Aberration, der Schrecken der Farbphotographie wurde auf ein nicht mehr sichtbares Minimum reduziert, wodurch die Definition und Resolution erheblich verbessert wurden. Selbst in der Infrarot-Photographie ist es mit diesem Objektiv nicht mehr nötig, die Schärfe kompensierend nachzustellen.

Tokina Objektiven garantieren Ihnen Bild für Bild Freude an der Photographie. Damit jedoch diese Freude ungetrübt bleibt, sollten Sie sich ein paar Minuten Zeit nehmen, um die Betriebsanleitung Ihres TOKINA TM500 durchzulesen. Denken Sie daran: der richtige Umgang mit dem Objektiv und seine entsprechende Pflege verlängern die Lebenszeit dieses Präzisions-Objektives.

這反射鏡配備三款不同濾色鏡，IA. ND2X及ND4X，連同鏡頭裝配在一起。在不同攝影環境下請採用適合之濾色鏡片。

〈注意〉

此反射鏡特別設計後裝式濾色鏡鏡片裝配在鏡頭之尾部，而攝影焦距亦以此位置計算。

此類濾色鏡片乃特別配合光學特性設計，請選擇一合適濾色鏡於合適之攝影環境使用。

我們另外特別為此鏡頭設計配備一組特別效果之濾色鏡片（請參照第37頁有關另配濾色鏡資料）請常用濾色鏡相攝照片以是到此鏡頭之特別性能及效果。

曝光

a) 使用直接透光式相機

由於此鏡頭之光圈不能改變，曝光控制全賴快門速度高低而定，故此可照直接透光式測

光而決定快門速度。

b) 全自動相機

不論相機是快門或光圈優先，相機能自動利用曝光系統決定正確之快門速度。其他一少許品種可作手動式相機使用。

假若相機是手動式直接透光相機，則只需依照曝光指示（走燈式或走針式）而以快門速度相配合便可。在極強光而不能以合適快門速度拍攝時，可使用ND-2或ND-4濾色鏡減光（使用方法可參照第35頁）。

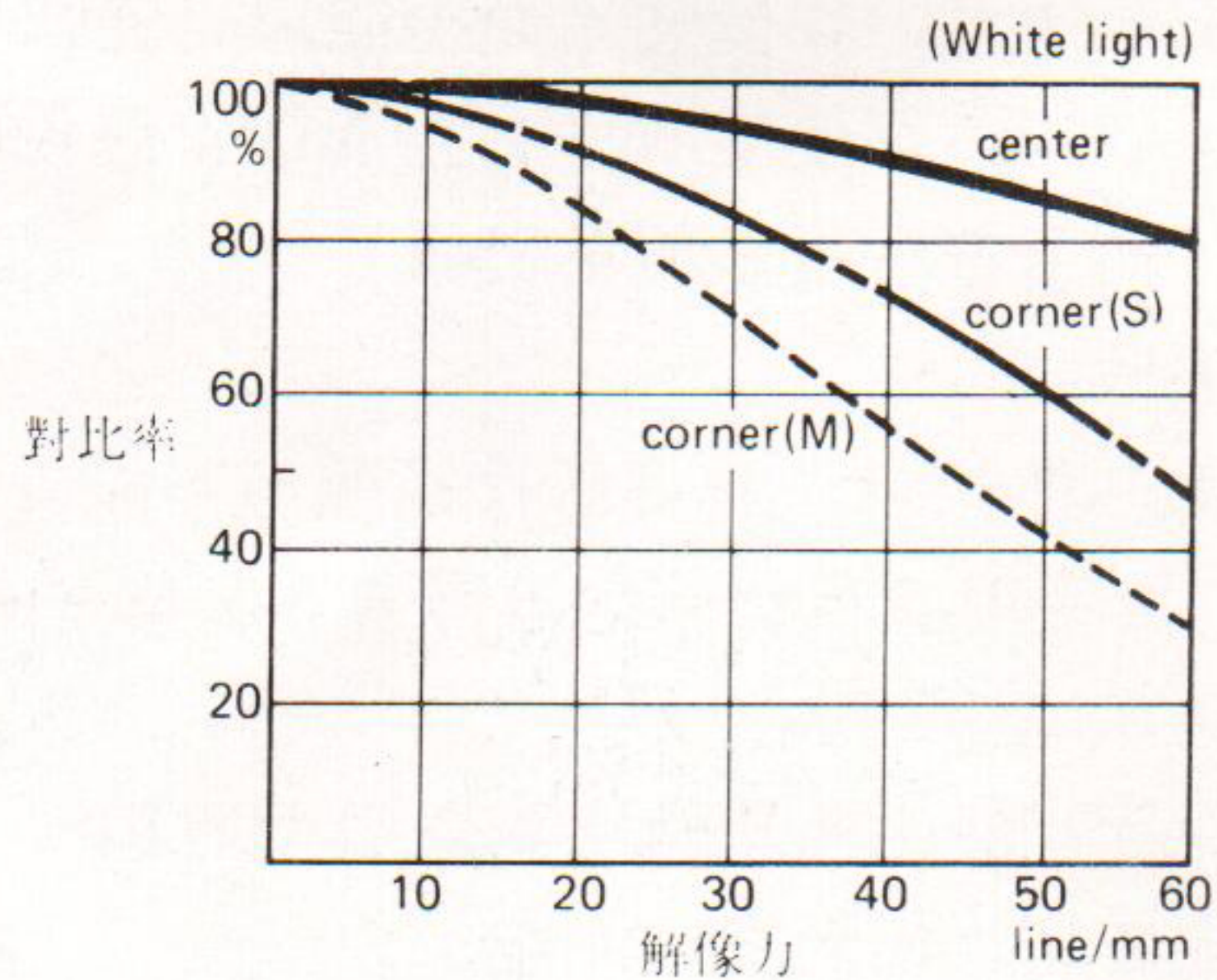
c) 其他相機

當使用其他相機，雖可轉換鏡頭而不能直接測光。故使用濾色鏡時應再計算正確曝光值，辦法可參考下列表格。

- 到於鈎針式藝康照相機（不是AI型照相機），曝光法是先收縮光圈後測定。

濾色鏡	顏色	濾色值(日光)	濾色值(鋅胆)
Sky light(內)	無色	1	1
ND-2	淺灰	2	2
ND-4	灰	4	4

對比及解像力圖解



濾色鏡說明

濾色鏡套裝 1 (拍攝彩色照片用)

	A 2 琥珀色	A 12 琥珀色	B 2 藍色	B 12 藍色
日光	1.2	2.2	1.2	3
鋅胆	1.2	2.2	1.2	3

濾色鏡套裝 2 (拍攝黑白照片用)

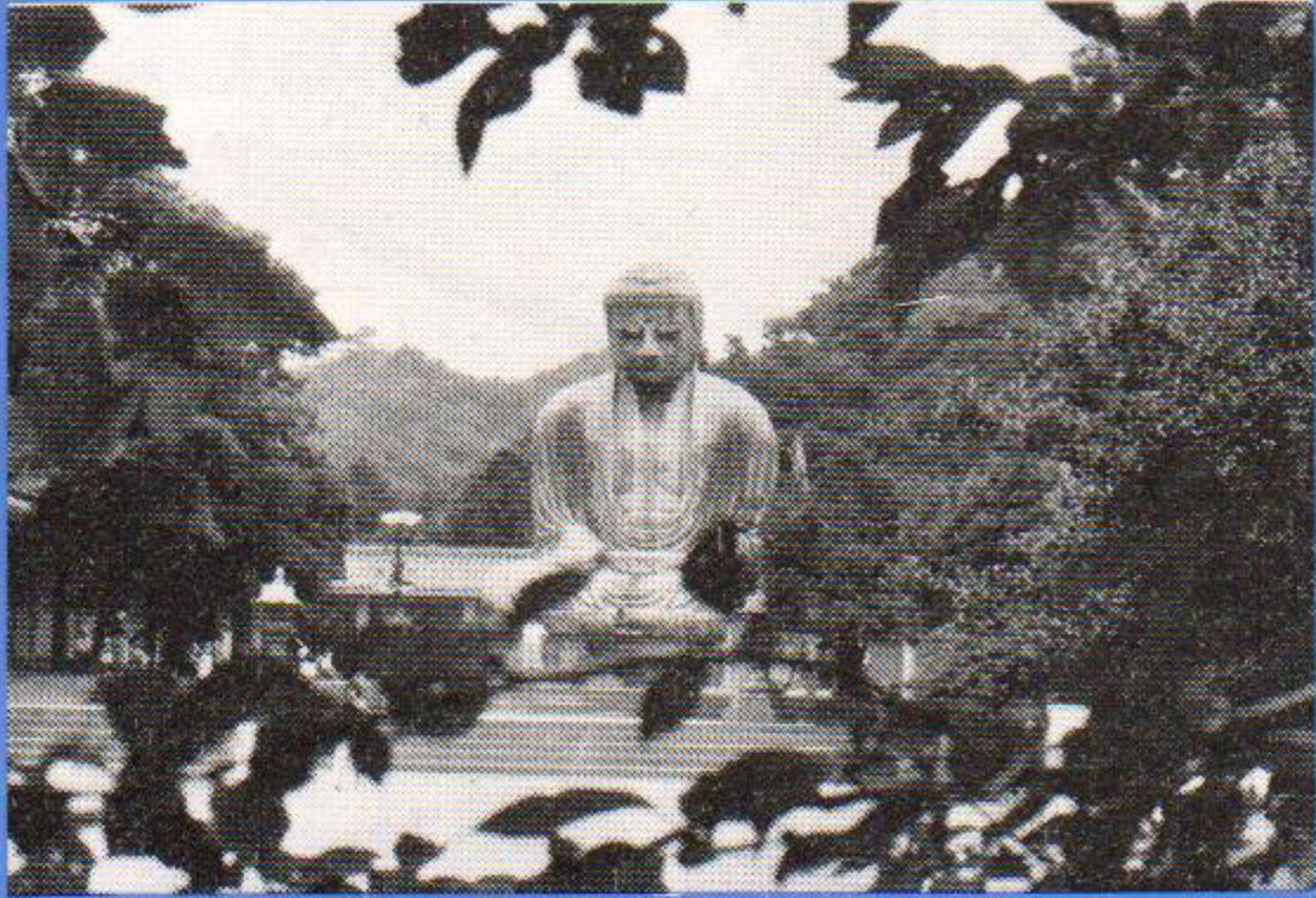
	UV 無色	Y 48 黃色	O 56 橙色	R 60 紅色
日光	1	2	4	8
鋅胆	1	1.5	3	4

保養及存放

請不要用手指或粗糙布抹觸鏡面。如鏡面污垢時請用泵掃清理。鏡頭不用時請用前後鏡蓋封好鏡頭以免塵埃滲入鏡內。如鏡頭不小心印上指印時，請用抹鏡紙濕上抹鏡上輕輕將指印抹去，再用乾抹鏡紙弄乾。

假若將鏡頭存放一段時期，應放在乾爽之地方。因高溫及潮濕可使鏡內精密之構造受損。

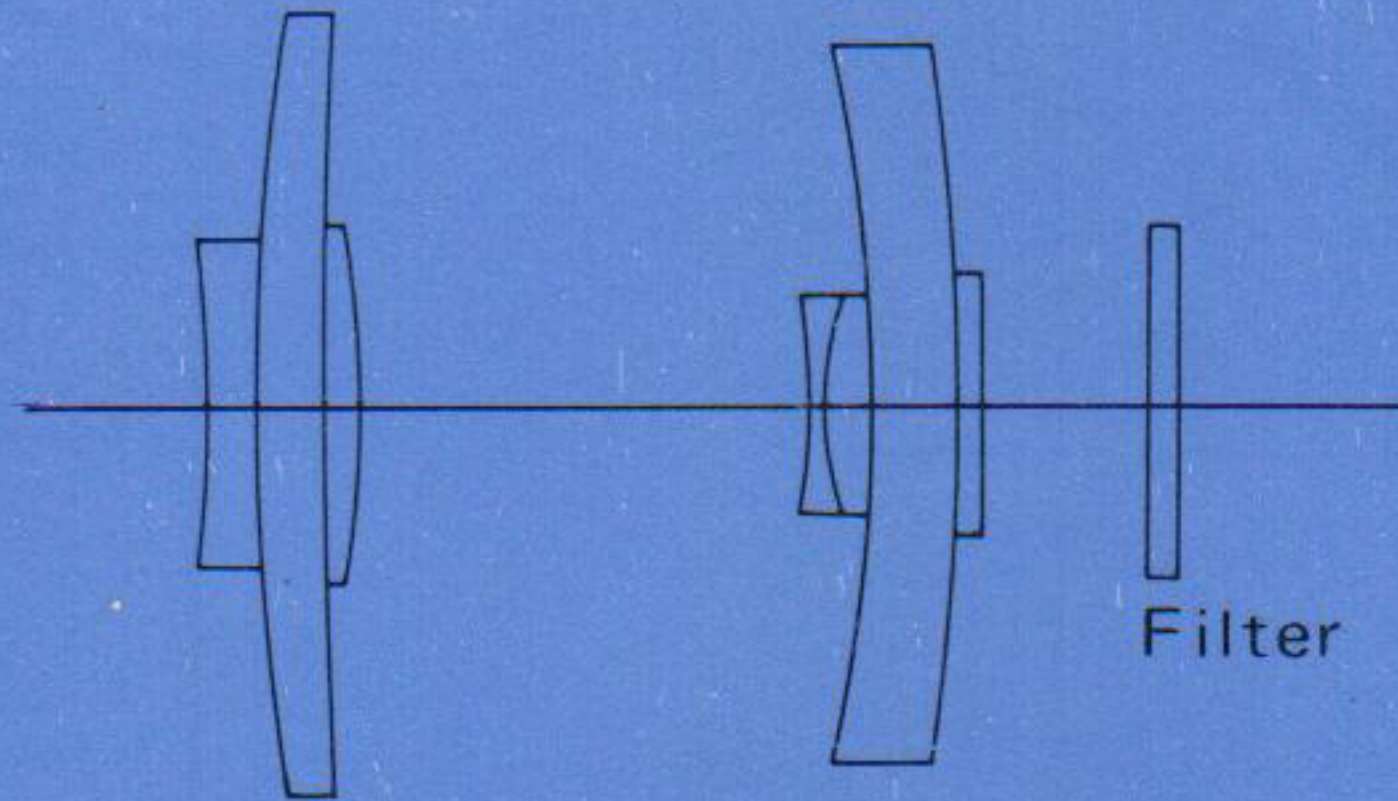
此鏡頭乃高度精密儀器應慎為處理，小心碰撞或跌落等意外發生。



50mm



500mm



Specifications

Focal Length:	500mm
Fixed Aperture:	f/8
Optical Construction:	7 Elements in 2 Groups
Lens Coating:	Tokina RMC Multi-Coating protects against flare
Angle of View:	4°57'
Minimum Focusing Distance:	1.5m (5 ft)
Maximum Magnification:	1:2.5
Focusing Operation:	Rotating Helicoid Type
Total Focus Rotation:	327°30' (1.5m to ∞)
Filter Size:	35.5mm rear type
Mount:	Fixed Mount
Maximum Length (at ∞):	88.2mm (with P mount)
Diameter:	78mm (")
Weight:	462 gr
Accessories:	Lens Hood (screw-in) Skylight Filter ND-2x Filter ND-4x Filter
Optional Equipment:	various filters
Note: Specifications and exterior design are subject to change without prior notice.	

Technische Daten

Brennweite:	500mm
Festblende:	f/8
Optische Konstruktion:	7 Elemente/2 Gruppen
Objektivergütung:	Tokina RMC Antiflare Multi-Coating
Bildwinkel:	4°57'
Minimalste Entfernung:	1.5m
Max. Vergrößerung:	1:2,5
Schärfeeinstell-mechanismus:	Helicoid-Schraube
Gesamtrotation(Schärfe):	327°30' (1,5m bis ∞)
Filtergröße:	35,5mm
Anschlußfassung:	Einbaufassung
Max. Länge (bei ∞):	88,2mm (mit P-Fassung)
Durchmesser:	78mm (")
Gewicht:	462 gr
Mitgelieferte Zusatzteile:	Objektivschutzkappen Sonnenblende Skylight-Filter Filter ND-2x und ND-4x
Außerdem lieferbares Zubehör:	Filtersatz für Farbfilm Filtersatz für s/w-Film
Technische Änderungen vorbehalten.	

Caractéristiques techniques

Longueur focale:	500mm
Ouverture fixe:	F:8
Construction optique:	7 éléments en 2 groupes
Revêtement:	traitement multi-couches Tokina RMC minimisant les reflets et taches lumineuses
Angle de champ:	4°57'
Distance minimum de mise au point:	1,5m (5 pieds)
Grossissement maximum:	1:2,5
Principe de mise au point:	rampe hélicoïdale
Rotation totale de la bague de mise au point:	327° 30' (1,5m à ∞)
Filetage pour filtres:	35.5mm (monture arrière)
Monture:	fixe
Longueur maximum (sur ∞):	88.2mm (avec monture P)
Diamètre:	78mm (")
Poids:	462 gr
Accessoires:	Paresoleil (à vis) filtre "skylight" filtre ND-2x filtre ND-4x
Équipement en option:	filtres divers
Nota: Caractéristiques et présentation modifiables sans préavis.	

Egenskaper

Brännvidd:	500 mm
Fast bländare:	f/8
Optisk konstruktion:	7 element i 2 grupper
Linsbehandling:	Tokina RMC Multi-Coating skyddar mot "flare" (linsens inre reflektion)
Bildvinkel:	4°57'
Minimifokuserbart avstånd:	1,5 m (5 fot)
Maximiförstoring:	1 : 2,5
Fokuseringsmekanism:	Roterande helikoid
Totalfokusrotation:	327° 30' (1.5m till ∞)
Filterstorlek:	35,5mm baksida
Infattning:	Fast
Maximilängd:	88,2mm (med P-infattning)
Diameter:	78 mm (")
Vikt:	462 gr
Tillbehör:	Motljusskydd (Skruvas på) Skylight-filter Filter ND-2x Filter ND-4x
Valfri utrustning:	Olika filter
Anmärkning: Egenskaper och design kan ändras utan vidare notering.	

Especificaciones

Distancia focal:	500mm
Abertura fija:	f/8
Construcción óptica:	7 elementos en 2 grupos
Revestimiento del Objetivo:	El multi-revestimiento de Tokina RMC es antirreflejivo
Angulo de Visión:	4°57'
Distancia de Enfoque mínima:	1,5m (5 ft)
Aumento máximo:	1:2,5
Operación de Enfoque:	Tipo de Rotación Helicoidal
Rotación de foco total:	1.5m hasta ∞ 327°30'
Medida del filtro:	35.5mm (tipo posterior)
Montaje:	Montaje fijo
Distancia Máxima (en ∞):	88,2mm (con montaje P)
Diámetro:	78mm (")
Peso:	462 gr
Accesorios:	Protector del objetivo (atormillado) Filtro Tragaluz Filtro ND-2x Filtro ND-4x
Equipo Optativo:	Filtros diferentes
Nota: Las especificaciones y el diseño exterior están sujetos a cambio sin noticia previa.	

規格說明

焦距長度:	500m
固定光圈:	F/8
鏡片構造:	兩組七件
鏡片膜層:	圖麗RMC多層加膜
觀景角度:	4°57'
最近攝距:	1.5m (5 ft)
最大放大倍數:	1:2.5
對焦方式:	轉動式
對焦轉動角度:	327°30' (1.5m— ∞)
濾光鏡口徑:	35.5mm, 後加式
接駁環:	固定式
最大鏡長(無限遠時):	88.2mm (P式接環)
最大口徑:	78mm (P式接環)
重量:	462 g
配件:	遮光罩(鑼絲) 1A 濾色鏡 ND-2x 濾色鏡 ND-4x 濾色鏡
可加配件:	各款濾色鏡
(*上列規格得以隨時更改, 不用另行通知)	



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