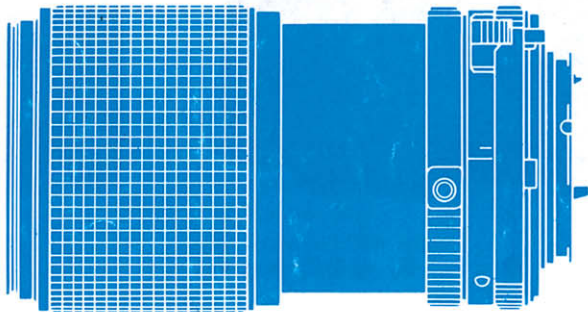




MINOLTA

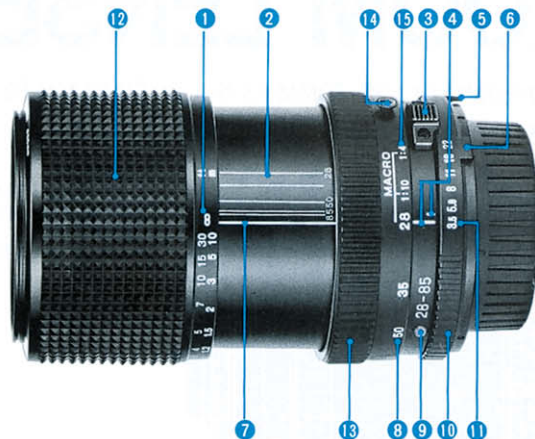
# MD ZOOM LENSES

24-35MM F3.5 24-50MM F4 28-70MM F3.5-4.8 28-85MM F3.5-4.5  
35-70MM F3.5 35-105MM F3.5-4.5 35-135MM F3.5-4.5

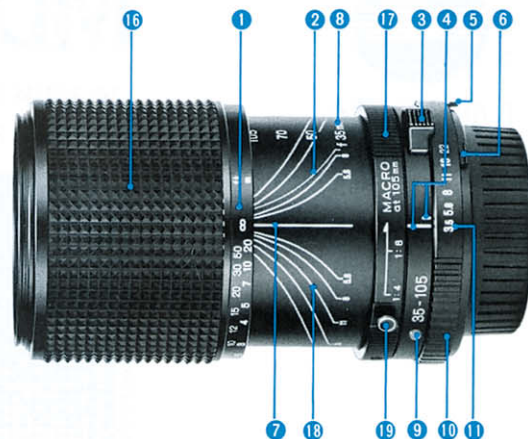


INSTRUCTION MANUAL  
BEDIENUNGSANLEITUNG  
MODE D'EMPLOI  
MANUAL DE INSTRUCCIONES

28-85mm f/3.5-4.5 MD Zoom



35-105mm f/3.5-4.5 MD Zoom



## NAMES OF PARTS

- ❶ Distance scale
- ❷ Infrared index (es) \*
- ❸ Minimum-aperture lock \*
- ❹ Aperture index(es)
- ❺ MD lug
- ❻ MC lug
- ❼ Distance index
- ❽ Focal-length indications
- ❾ Mounting index
- ❿ Aperture ring
- ⓫ Aperture scale

\* 28-70mm Zoom not included on

For 24-35mm and 24-50mm Zooms only:

- ❿ Focusing ring
- ⓬ Zooming ring

For 35-70mm, 28-70mm and 28-85mm Zooms only:

- ❿ Focusing grip
- ⓬ Zooming ring
- ⓭ Macro button \*
- ⓮ Magnification ratios

For 35-105mm and 35-135mm Zooms only:

- ⓯ Zooming/focusing grip
- ⓰ Macro collar
- ⓱ Depth-of-field scale
- ⓲ Macro-collar release

## ATTACHING AND REMOVING LENS

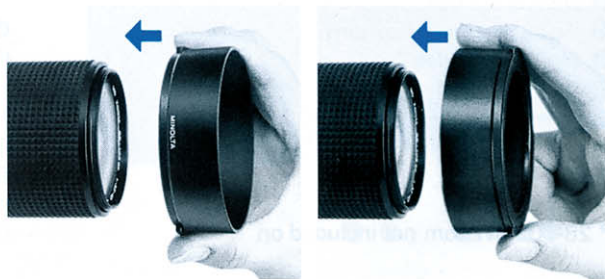
To attach lens, remove rear lens cap and align mounting index on lens barrel with red index on lens mount. Then insert lens into mount and turn clockwise until it locks in place with a click.

To remove lens, hold down lens-release button on camera and turn lens counterclockwise as far as possible. Lift lens out of mount.

## LENS HOOD

To attach hood, first remove lens cap. Then squeeze tabs on either side of hood and attach to lens so hood seats securely in the groove.

To store, press side tabs and remove hood from lens. Slide hood onto lens in reversed position and press and release tabs to attach. Lens cap may then be replaced.



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## ZOOMING AND FOCUSING

**With 24-35mm, 24-50mm, 28-70mm, 35-70mm and 28-85mm Zooms:**

To zoom, turn zooming ring to desired focal length. Aperture index points to focal length in use. (With 28-85mm zoom, use orange aperture index.)

To focus, turn the focusing grip until the subject appears sharpest in the viewfinder.

**With 35-105mm and 35-135mm Zooms:**

To zoom, slide zooming/focusing grip forward or backward to desired focal length. Focal lengths are marked on the lens barrel.

To focus, turn grip clockwise or counterclockwise until subject appears sharpest in the viewfinder.

## MACRO OPERATION

**(35-70mm, 28-70mm, 28-85mm, 35-105mm and 35-135mm Zooms only)**

When subject is too close to focus by turning lens to its minimum focusing distance, use the lens' macro operation to focus.

**With 35-70mm and 28-85mm Zooms:**

While holding down macro button, turn zooming ring into the macro range and release the button. Use zooming ring to focus subject; focusing grip may also be used for fine adjustments.

To return lens to normal focusing and zooming, turn zooming ring into the zooming range while holding macro button down.

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### With 35-105mm and 35-135mm Zooms:

Slide zooming/focusing grip to its longest focal length. While holding down macro-collar release, turn collar in direction of its blue arrow. Remove finger from macro-collar release to lock lens in macro range. Use macro collar to focus subject; focusing operation of zooming/focusing grip may also be used for fine adjustments.

To return lens to normal focusing and zooming, press macro-collar release and turn macro collar back into normal zoom range.

- Do not attempt to rotate macro collar or push macro-collar release unless zooming/focusing grip is set to longest focal length position.
- Do not attempt to use zoom function when lens is in macro range, since lens is locked at longest focal length when macro function is engaged.

### With 28-70mm Zoom:

- 4 First rotate the zooming ring to the longest zoom

position and then, with slight pressure, continue turning to bring the lens into its macro range. The magnification setting is indicated in blue on the zooming ring.

### NOTE

- Magnification ratios in macro range are indicated in blue on zooming ring (28-70mm, 28-85mm and 35-70mm zooms) or macro collar (35-105mm and 35-135mm zooms). With lens set to its minimum focusing distance, aperture index (if more than one, use orange index) points to the magnification ratio set on lens. Maximum magnification of 0.25X is achieved when an image-subject ratio of 1:4 is set and focusing ring is turned to its minimum focusing distance.
- The macro function of this lens is designed to be used for taking pictures of subjects such as insects or flowers. These lenses are not intended for copying documents or artwork, for which use of Minolta macro lenses is recommended.

## SETTING APERTURE

### With 24-35mm, 24-50mm, and 35-70mm Zooms:

To set aperture in auto or manual mode, simply turn aperture ring until desired aperture setting is opposite aperture index. Effective aperture remains the same throughout the zoom range.

### With 28-70mm, 28-85mm, 35-105mm, and 35-135mm Zooms:

Effective aperture of these lenses changes when zooming from wideangle to telephoto, or vice versa. 28-70mm Zoom provides a range of f/3.5 to f/22 at its shortest focal length, and f/4.8 to f/31 at its longest. 35-135mm zoom provides a range of f/3.5 to f/32 at its shortest focal length, and f/4.5 to f/38 at its longest. 28-85mm and 35-105mm zooms have a respective range of f/3.5 to f/22 at the shortest focal length, and f/4.5 to f/28 at the longest.

The TTL (through-the-lens) metering of Minolta cameras automatically meters for light actually passing through the lens; thus in automatic and program modes, no exposure compensation is required for this change in effective aperture. Also, exposure compensation is not necessary when using the meter in the camera to determine exposure with manual cameras and modes.

When using a hand-held light meter to determine exposure, or for flash photography (other than "A" mode or "P" mode TTL autoflash), aperture should be set after zooming to desired focal length.

Two aperture indexes are provided on lens barrel. The longer orange index indicates aperture when shortest focal length is used; the yellow index indicates aperture at longest focal length. Aperture indexes and focal-length designations are color coordinated for quick reference. For focal lengths between the extremes, set desired

aperture at index corresponding to nearer focal length.

#### NOTE

- Zooming causes a change in effective aperture amounting to about one half-stop from one end of the focal-length range to the other. When using AE lock, compensate for this change before engaging the lock or do not zoom after engaging it.
- (28-70mm f/3.5-4.8 zoom only)  
When taking pictures at the short focal lengths (close to 28mm), it is recommended that an aperture of f/5.6 or smaller be used. Some vignetting (darkening of the outer edges of the picture) may occur if the aperture is set between f/3.5 and f/5.6 at short focal lengths.

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## INFRARED INDEX

The infrared index is used to obtain proper focus when photographing with infrared film.

#### On 35-105mm and 35-135mm Zooms:

For proper focus when using infrared films, first focus on subject as usual. Note point of focus on distance scale opposite distance index. Attach filter to be used, then turn focusing grip to the right, aligning same point of proper focus on distance scale with red infrared index on lens barrel.

## DEPTH-OF-FIELD SCALE

#### (35-105mm and 35-135mm zooms only)

With lens zoomed to a particular focal length and focused at a given point, image will be in satisfactory focus from nearer to farther value on the distance scale, indicated by appropriate depth-of-field marks for aperture in use.

The depth-of-field scale can also be used to zone focus, i.e., to set focusing ring so that depth of field covers area where anticipated action will take place. (For more information on depth of field, see instruction manual for camera.)

#### NOTE

Zooming to longer focal lengths (at a given aperture setting and focused distance) will effectively decrease depth of field; zooming to shorter focal lengths will increase it.

#### On 24-35mm, 24-50mm, 28-85mm and 35-70mm Zooms:

For proper focus using infrared film, follow procedures as described at left, using appropriate infrared index for focal length set. When focusing at focal lengths in between those marked, estimate between indexes.

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## CARE AND STORAGE

- Never touch lens surfaces. Remove loose matter with a blower brush. If necessary, clean with a soft, clean cloth or special photographic lens tissue, which may be moistened with not more than one drop of a quick-evaporating fluid cleaner specially compounded for photographic lenses. Never drop fluid directly on glass surface.
- Always keep the lens capped and in its case when not in use.
- Store away from heat, high humidity, and harmful chemicals and vapors.
- For all other service and repairs, contact an authorized Minolta service facility.

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## SPECIFICATIONS

LENS	ELEMENTS GROUPS		ANGLE OF VIEW	MINIMUM FOCUS (MACRO)	MAXIMUM MAGNIFICATION	MINIMUM F-STOP	FILTER MOUNT DIAMETER	DIMENSIONS	WEIGHT
24-35mm f/3.5	10	10	84°-63°	0.3m 1ft.		f/22	55mm	φ67 x 50mm φ2-5/8 x 1-15/16in.	285g 10-1/16 oz.
24-50mm f/4	13	11	84°-47°	0.7m 2.3ft.		f/22	72mm	φ75 x 69.5mm φ2-15/16 x 2-3/4in.	390g 13-3/4 oz.
28-70mm f/3.5-4.8	8	8	76°-35°	0.8m (0.35m) 2.6ft. (1.1ft.)	0.25X	f/22~ f/31	55mm	φ64 x 68.5mm φ2-1/2 x 2-11/16in.	285g 10-1/16 oz.
28-85mm f/3.5-4.5	13	10	75°-29°	0.8m (0.25m) 2.6ft. (0.8ft.)	0.25X	f/22~ f/28	55mm	φ65.5 x 86.5mm φ2-9/16 x 3-3/8in.	470g 1lb. 9/16 oz.
35-70mm f/3.5	8	7	63°-34°	0.8m (0.33m) 2.6ft. (1.1ft.)	0.25X	f/22	55mm	φ69 x 68.5mm φ2-11/16 x 2-11/16in.	365g 12-7/8 oz.
35-105mm f/3.5-4.5	14	12	63°-23°	1.5m (0.41m) 4.9ft. (1.3ft.)	0.25X	f/22~ f/28	55mm	φ64 x 88mm φ2-1/2 x 3-7/16in.	430g 15-3/16 oz.
35-135mm f/3.5-4.5	14	12	63°-18°	1.5m (0.45m) 4.9ft. (1.5ft.)	0.25X	f/32~ f/38	55mm	φ64 x 100mm φ2-1/2 x 3-15/16in.	510g 1lb. 2 oz.

Specifications subject to change without notice

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