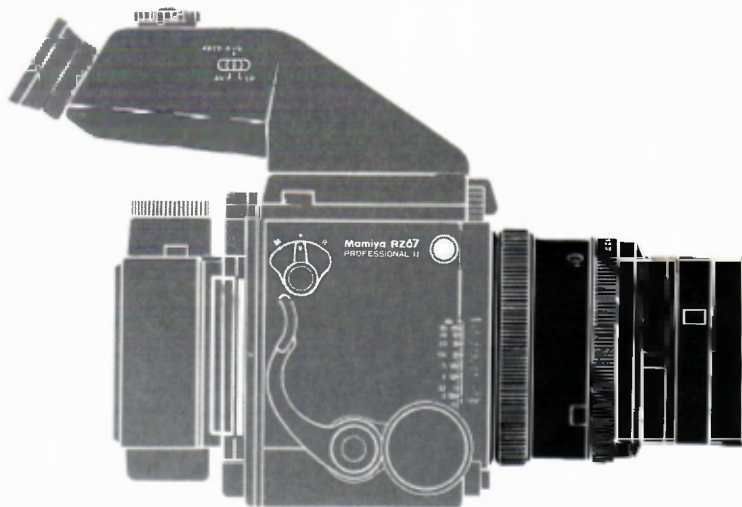
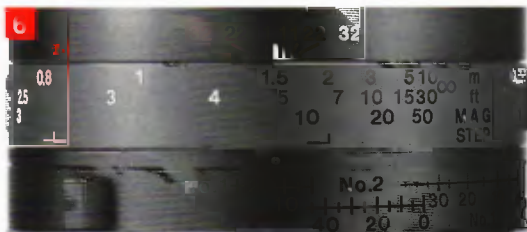
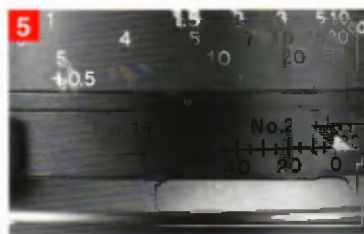
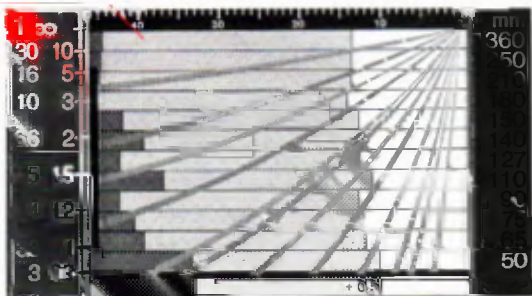


RZ67

Macro Lens M 140mm f/4.5 M/L-A



English Instructions



Special Feature

The Macro Lens is a Gauss type lens incorporating a floating lens system which moves elements of the system back and forth to adjust to the appropriate focusing distance. The floating elements ensure high resolution not merely in the central but also periphery in close-up photography. This assures exacting detail not merely in the infinite mode but also during life-size photography when auto extension tubes are used.

Name of Parts

- ① Depth-of-field scale
- ② Floating ring
- ③ Mirror release operating Socket
- ④ Time(T) Lever
- ⑤ Distance scale for reading depth-of-field (with magnification and exposure compensation scale)
- ⑥ Floating alignment dot
- ⑦ Aperture Scale ring
- ⑧ X-sync terminal

Specifications

Shutter : SEIKO #1 electronic shutter
Composition : 6 elements in 4 groups
Angle of view: 35°
Minimum aperture: f/32
Filter : Screw-in type
(77mm in diameter)
Lens hood: Screw-in type
(77mm in diameter)
Size : 90 x 97mm
Weight : 870g (without cap)



Using the Macro Lens

[1] General photography when auto extension tubes are not used

Photographic distance: ~ about 76cm (from film plane to subject)

1. Focus the camera. (Although the floating ring may be set at any position on the scale, it is best to set the lens at ∞ .)
2. When using the bellows, extension can be calculated by matching the bellows extension scale on the side of the camera (mm) with the corresponding stop on the white scale from ∞ on the floating ring. Use the white scale beginning with ∞ : one stop is equivalent to a 5mm extension. (Photo. **1**)
3. Adjust the focus once more.

★ When taking a snapshot or photographing a distant object, a sufficiently sharp image can be obtained when the floating ring is at ∞ . (Photo. **2**)

★ When the floating ring has been used, always be sure to readjust the focus.

[2] When using the auto extension tube No. 1 [45mm]

Photographic distance: about 77cm ~ 59cm (from film plane to subject)

1. Focus the camera. (The floating ring may be set at any position on the scale.)
2. When using the bellows, extension can be calculated by matching the bellows extension scale on the side of the camera (mm) with the corresponding stop on the green No. 1 scale on the floating ring. One stop is equivalent to a 5mm extension. (Photo. **3**)
3. Adjust the focus once more.

★ When taking a snapshot, if the floating alignment dot falls within the green No. 1 scale, a sufficiently sharp image can be obtained.

★ If utmost sharpness is desired on the periphery, follow steps 2 and 3 above. If they are followed, be sure to readjust the focus.

[3] When using the auto extension tube No. 2 [82mm]

Photographic distance: about 60cm ~ 56cm (from film plane to subject)

1. Focus the camera. (The floating ring may be set at any position on the scale.)
2. When using the bellows, extension can be calculated by matching the bellows extension scale on the side of the camera (mm) with the corresponding stop on the white No. 2 scale on the floating ring. (Photo. **4**)
3. Adjust the focus once more.

★ When taking a snapshot, if the floating alignment dot falls within the white No. 2 scale, a sufficiently sharp image can be obtained.

★ If utmost sharpness is desired on the periphery, follow steps 2 and 3 above. When they are followed, be sure to readjust the focus.

[4] When using the auto extension tubes No. 1 [45mm] and No. 2 [82mm] together

Photographic distance: about 56cm (from focal plane to subject)

1. Focus the camera. (The floating ring may be set at any position on the scale.)
2. When using the bellows, extension can be calculated by matching the bellows extension scale on the side of the camera (mm) with the corresponding stop on the red No. 1 + No. 2 scale on the floating ring. The maximum extension on the red No. 1 + No. 2 scale is 15mm at which life-size photography can be taken. When photographing at greater extensions, image quality will deteriorate. When engaged in life-size photography, select the 15mm stop on both the red and distance scales on the side of the camera, and move the camera body back and forth to focus.

If sharp and clear life-size photographs are desired, measure the image on the ground glass focusing screen and make fine adjustments. (Photo. 5)

★ When using the RZ body, be sure to use the auto extension tubes No. 1 and No. 2.

Depth-of-Field

If the distance scale ring on the lens is turned and the photographic distance is set to the center alignment dot, the depth-of-field, magnification and exposure compensation amount can be read.


The depth-of-field can be confirmed on the focusing screen by pressing down the depth-of-field preview lever on the lens. (See page 21)

Magnification

Magnification is expressed by MAG. The MAG number is the inverse of magnification: 50 means that the subject is photographed at 1/50 its size, 20 at 1/20 and 5 at 1/5.

Exposure Compensation

The exposure compensation amount is indicated by STEP underneath the MAG. When the STEP number is +0.5, open the aperture by 0.5 (half stop). When it is

+1, open the aperture by one stop or stop down the shutter speed one step. (Photo. )

If exposure is measured by AE Prism Finder, exposure compensation is unnecessary.

Time (T) Exposure Lock Button

To make a time exposure, press the T Lock Button and move the T Lever all the way in the direction of the arrowhead, releasing your finger. When this is done, the T Lever will lock in the time exposure position.

Next, press the Shutter Release button and the shutter will open, remaining in that condition.

To terminate the time exposure, press the T Lock Button and return the T Lever to its original position.

To make another time exposure, simply repeat the above procedure.

★ Do not touch the Cocking Lever during a time exposure (while the shutter is open). Doing so could result in movement of the film, so exercise care.


★ The Shutter Speed Dial of the camera body may be kept at any position other than RBL during a time exposure.

However, with the previous model of RZ, after terminating a time exposure the Cocking Lever remains locked for the duration appearing on the Shutter Speed Dial. Thus, if the Shutter Speed Dial were set to 8 sec.

and a time exposure just terminated, it would not be possible to advance the Cocking Lever until 8 seconds had elapsed. Therefore, to eliminate any inconvenience, we recommend keeping the Shutter Speed Dial at 1/30 sec, or higher, when making time exposures.

Please note that regardless of the length of time exposures, virtually no power is drained from the battery at such a time.

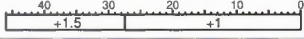
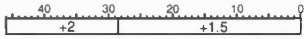
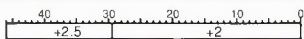
Reading the Close-up Photography Table (See page 21)

1. Subject distance in the chart is measured from the outermost edge of the lens to the subject.
2. Values on the left side of each column in the table are for when an auto extension tube is attached and the bellows are not extended. Values on the right side of the column are for when the bellows have been fully extended to 46mm. (Fig. )

Depth-of-field Table

| 絞り Aperture | 距離 Distance (m) | | | | | | | | | |
|----------------|-----------------|----------|-------|------|------|------|-------|-------|-------|-------|
| | ∞ | 10 | 5 | 3 | 2 | 1.5 | 1 | 0.8 | 0.7 | 0.6 |
| 4.5 | 64.97 | 8.71 | 4.67 | 2.88 | 1.95 | 1.48 | 0.991 | 0.795 | 0.697 | 0.599 |
| | ∞ | 11.74 | 5.38 | 3.13 | 2.05 | 1.53 | 1.009 | 0.805 | 0.703 | 0.601 |
| 5.6 | 52.30 | 8.45 | 4.60 | 2.86 | 1.94 | 1.47 | 0.989 | 0.794 | 0.696 | 0.598 |
| | ∞ | 12.26 | 5.48 | 3.16 | 2.06 | 1.53 | 1.011 | 0.806 | 0.704 | 0.602 |
| 8 | 37.02 | 7.94 | 4.45 | 2.80 | 1.92 | 1.46 | 0.984 | 0.792 | 0.695 | 0.597 |
| | ∞ | 13.53 | 5.71 | 3.22 | 2.09 | 1.55 | 1.016 | 0.808 | 0.705 | 0.603 |
| 11 | 26.21 | 7.32 | 4.25 | 2.73 | 1.89 | 1.44 | 0.978 | 0.789 | 0.693 | 0.596 |
| | ∞ | 15.86 | 6.08 | 3.33 | 2.13 | 1.57 | 1.023 | 0.812 | 0.707 | 0.604 |
| 16 | 18.57 | 6.59 | 4.01 | 2.63 | 1.84 | 1.42 | 0.969 | 0.784 | 0.690 | 0.595 |
| | ∞ | 21.00 | 6.67 | 3.49 | 2.19 | 1.59 | 1.033 | 0.817 | 0.711 | 0.605 |
| 22 | 13.17 | 5.78 | 3.71 | 2.51 | 1.78 | 1.39 | 0.957 | 0.778 | 0.686 | 0.593 |
| | ∞ | 38.89 | 7.76 | 3.75 | 2.28 | 1.64 | 1.047 | 0.824 | 0.715 | 0.607 |
| 32 | 9.35 | 4.93 | 3.35 | 2.35 | 1.71 | 1.34 | 0.941 | 0.769 | 0.680 | 0.590 |
| | ∞ | ∞ | 10.10 | 4.20 | 2.42 | 1.70 | 1.069 | 0.835 | 0.722 | 0.610 |

Close-up Table (1) (Fig 1)

| 中間リング Tube | 撮影倍率 Close-up Table | 被写体距離(cm) Lens to subject distance | 写る大きさ(cm) Area to be covered | 繰出量目盛 Bellows Extension (mm) 露出修正値 Exposure Factor(STEP) |
|---------------|---------------------------|------------------------------------------|---------------------------------|-------------------------------------------------------------------------------------|
| 45mm | 0.32-0.64 | 52.2-29.7 | (17.6×21.9)-(8.7×10.8) |  |
| 82mm | 0.58-0.90 | 32.1-23.3 | (9.7×12.0)-(6.2×7.7) |  |
| 45mm+82mm | 0.90-1.22 | 23.4-19.2 | (6.3×7.8)-(4.6×5.7) |  |

Auto Extension Tubes RZ

Coupte automatically with camera lens. Tube # 1 is 45 mm, tube # 2 is 82 mm long. Can be used together to make 127 mm extension, 173 mm with the additional 46 mm bellows extension. Bellows permit a certain range flexibility.

Weight: # 1...330g, # 2...410g



No.1[45mm]

No.2[82mm]